PB-229 619

POLLUTION OF INTERSTATE WATERS OF THE PUGET SOUND, STRAIT OF JUAN DE FUCA AND THEIR TRIBUTARIES AND ESTUARIES - STATE OF WASHINGTON. 1ST SESSION HELD AT OLYMPIA, WASHINGTON ON JANUARY 16-17, 1962. VOLUME II, JANUARY 17. TRANSCRIPT OF CONFERENCE

Public Health Service
Washington, D. C.

1962

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PB 229 619

TRANSCRIPT OF CONFERENCE

IN THE MATTER OF

POLLUTION OF INTERSTATE WATERS

PUGET SOUND, STRAIT OF JUAN DE FUCA
AND
THEIR TRIBUTARIES AND ESTUARIES - STATE OF WASHINGTON

6009

First Session

January 16-17, 1962

Olympia, Washington

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Volume II

January 17 211

CERTIFICATE

THIS IS TO CERTIFY THAT, the attached proceeding before the Joint Federal-Washington State Pollution Control Conference, in the matter of

Pollution of Waters of Puget
Sound, Strait of Juan de Fuca,
Tributaries and Estuaries,

had at Olympia, Washington, under date of January 17, 1962, were had as therein appears and that this is the original transcript thereof for the files of the Public Health Service, Department of Health, Education & Welfare.

BILL'S RECORDING SERVICE
706 Failing Building
Portland 4, Oregon
OFFICIAL REPORTER.

Included are statements ~~from~~ on: Oyster growers; pulp and paper mills; fishing statistics; disinfection of sea water with ultraviolet radiation; marine life distribution; and related information.

BEFORE THE

U. S. PUBLIC HEALTH SERVICE

and the

WASHINGTON STATE POLLUTION CONTROL COMMISSION

- -:

On the Matter of:

POLLUTION OF WATERS OF PUGET SOUND,
STRAIT OF JUAN DE FUCA, TRIBUTARIES
AND ESTUARIES.

- -:

Large Conference Room,
First Floor,
General Administration Bldg.,
Olympia, Washington.
Wednesday, January 17, 1962.

Pursuant to adjournment, the above-entitled matter came on for further conference at 10:00 o'clock a.m.,

BEFORE:

JOINT FEDERAL-WASHINGTON STATE POLLUTION CONTROL CONFERENCE

MR. MURRAY STEIN, HQ, Department of Health, Education & Welfare, Washington, D. C.; Chairman;

and Conferees as previously noted.

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CHAIRMAN STEIN: The conference in the matter of pollution of the waters of Puget Sound, Strait of Juan de Fuca and connecting navigable waters is reconvened.

I understand that yesterday, we had some trouble in getting the people in the back of the room to hear and I recognize that with the difficulties of the public address system, this might be so. If you have difficulty hearing again, it would be appreciated if you could just kind of signal back there and we'll make an attempt to get the people up here to speak more loudly.

Mr. Bergerson, would you want to continue?

MR. BERGERSON: Continuing with item 5 on the agenda, statements or presentations by invitees from industries, cities, Federal agencies and water resource users -- we are proceeding with that list. The first speaker this morning will be Mr. Milo Moore of the Pacific Coast Oyster Growers Association. Is Milo here?

STATEMENT ON BEHALF OF PACIFIC COAST OYSTER GROWERS ASSOCIATION

(By Mr. Milo Moore)

MR. MOORE: Gentlemen, I appreciate this opportunity to attend these hearings and I'd like to say that yesterday's hearing was one of the best that we've had in many years to discuss this subject, of interest to many people of the State of Washington.

I have been in the fish business, one way or another or associated with fisheries for over forty years. I have watched the upper Sound and country grow and have served in the capacity of Director of Fisheries for eight years in this State. I've had the opportunity to visit many countries where pollution is a problem -- in Europe and Asia -- and I have seen the ill effects that it's had upon civilizations that were trying to better themselves and maintain a stable economy. I think that now, we're getting somewheres.

I would just like to make one brief comment on the statements that were made. Pollution of sulphite waste liquor and the effects of large amounts of sulphite waste materials being dumped into the waters of this State do cause considerable harm to our fisheries resources. This has been proved time and time again by extensive studies and hundreds of thousands of dollars which this State has spent in studies of this problem.

I have a brief statement that I would like to read in behalf of the Pacific Coast Oyster Growers Association.

The matter of pollution of public waters, the subject of this conference, has concerned the people of the Pacific Northwest for many years, and much consideration has been given towards finding ways and means whereby domestic and industrial wastes can be disposed of to eliminate the resultant hazards to public welfare.

In practically all instances where pollution of public waters became a problem, measures in the public interest have been taken to insure correction. There is, however, one exception, which today is the cause of most concern. This is the lack of compliance to uniform requirements of practice of the principles of pollution abatement by some of the large pulp and paper mills in this area.

In and out of Government, debates and opinions have voiced considerable confusion as to the physical effects of millions of gallons of highly concentrated corrosive, toxic, chemical waste released from pulp and paper mills daily into public waters. It follows the natural course of events, those who financially suffer most from the spreading of contaminated waters through improper waste disposal, raise the loudest cry for control of such waste. Likewise, those who profit most in the free dispersion of their waste into natural drainage areas, seek to continue the practice.

The oyster growers and the shellfish industry of this State, through their vested interests and ownership of tidal areas, over which the tidal currents ebb and flow, have a legitimate right under the laws of this State and Nation to demand correction in the release of waste into public waters that overflow their land.

In regard to Item 1 on the agenda today, the problem of pollution in Puget Sound and Strait of Juan de Fuca area is well documented in the records of the Washington State Pollution Control Commission and in the Washington State Department of Fisheries. Years of study and hundreds of thousands of dollars have been spent in scientific studies of these conditions.

Under Item 2 -- "Has adequate measures been taken to control pollution." The answer is "No". The problem still exists and there are known and reasonable ways to eliminate these harmful effluences on the public welfare, causing impairment of other important industries.

Item 3 opens the subject of delays, if any, encountered in the abatement of pollution of public waters. To this, we say, "Reasonable delays, necessary legal procedures, scientific studies and analysis of the main problems have long been accounted for in regard to specific instances of pulp and paper mills that have not provided correction of their contribution to contamination of public waters. This situation becomes further alarming when the Pollution Commission is met with a battalion of twenty or more of the State's most eminent lawyers, commissioned to set aside, if possible, the directives of the Pollution Commission for them to provide within a reasonable time, treatment of their waste."

It is evident, we are sorry to say, that the problems involved with pollution have caused severe penalties for some who have stood for sincere, honest and practical obtainment of laws, directives and action for abatement of pollution in public waters.

We are hopeful that the time will soon come when the legal forces opposing correction of the problem can be exchanged for competent technicians employed to revise the methods of industry, which now is the subject of concern.

We are pleased, Mr. Chairman, that Federal and State Agencies may work together and share in this responsibility.

Thank you very much.

CHAIRMAN STEIN: Thank you, Mr. Moore. Do you have any comments or questions?

MR. DWORSKY: No.

(Following letter on letterhead of Pacific Coast Oyster Growers Association, from Mr. Milo Moore, Fisheries Consultant, received by Public Health Service, Water Supply and Water Pollution Control, PNW, Portland, Oregon, on January 19, 1962, herewith entered into the record as follows:)

January 18, 1962

Mr. Leonard Dworsky
U. S. Department of Health,
Welfare and Education
570 Pittock Block
Portland, Oregon

Dear Mr. Dworsky:

As suggested by the Chairman of the Joint State and Federal Conference on Water Pollution Abatement and Control, held at Olympia, Washington, January 16 and 17, 1962, I wish to add the following information for the record in behalf of the Pacific Coast Oyster Growers Association.

During the course of the two day hearings there was repeated referral to improved salmon fishing conditions during the past year in Port Gardner Bay (vicinity of Everett Harbor) and elsewhere. To fully acquaint the conferees of this situation, I believe further explanation is necessary to enlighten the committee on this subject.

For four years previous to July 1, 1961, I served as

Director of Fisheries for the State of Washington. At the same time I served as a member of the International Pacific Salmon Fisheries Commission; as a member of the Washington State Pollution Control Commission; and represented Washington on three other Fisheries Commissions dealing with fisheries of the Pacific Coast. Eight and one half years previous to this time, I served an additional four year term as Washington's Director of Fisheries. During these periods of time I had the responsibility of detailing personnel in the Department of Fisheries to make comprehensive surveys and analysis of pulp and paper mill waste effluents released into public waters affecting fish life. A good portion of the documented scientific analysis available today of this problem is the result of these surveys carried out under my administration.

Likewise, it was my responsibility during these periods to provide measures and regulations to secure, protect and strengthen the food fish resources of this state and region.

During the eight and one half year period prior to July, 1957, there was no serious concentrated effort made by the Washington State Department of Fisheries or the Washington State Pollution Control Commission to secure the fisheries resources of this area against over-fishing, loss of spawning areas by the construction of hydroelectric dams or from the evil effects of pulp mill pollution. The salmon hatchery program for the State of Washington and the Columbia River area continued to expand as outlined under my administration in 1946 to 1948. During this time the salmon runs throughout the state and along the Pacific Coast declined more than 50 percent.

Resuming office as Director of Fisheries in July 1957, I immediately initiated a program to curtail commercial salmon fishing seasons and to place limitations upon the sport salmon fishery to protect, conserve and build up the declining salmon runs returning to all rivers of the State. Less than sixty days after resuming office in 1957, I closed the entire Puget Sound fall commercial salmon fishing season for the first time in history to protect the runs.

During the years 1958, 1959, 1960, and 1961, we held the commercial salmon fishing seasons at a much reduced scale in comparison to previous years, and instigated the most comprehensive program of artificial propagation and rearing of salmon ever attempted by man. My administration more than doubled the reared output of young salmon in the state hatcheries in three and one half years; and we started a new concept of fish farming in the natural bays, lakes, and lagoons in twenty-one different areas.

What was referred to in improved fishing conditions in Port Gardner Bay (at Everett Harbor) in 1961 was the direct result of these earlier curtailments in the fishery. And through voluntary reductions of fishing effort by sportsmen.

The improved conditions at Port Gardner Bay during 1961 corresponded to the betterment of the salmon runs evident elsewhere in the State. Commercial fishing resort owners too, encouraged exaggerated newspaper accounts of the improved fishing conditions to obtain boat rentals and to sell accommodations to sport fishermen in the area.

With all the curtailments and improvements to date, the overall salmon runs in Puget Sound (including Port Gardner Bay) do not equal one fifth the number of salmon formerly taken during an average year in the area.

Pollution of public waters is but one cause of the decline in runs of salmon. Correction of this problem was projected along with all other efforts to secure the fisheries resources. International cooperation by Canada was requested to provide further conservation of salmon. During 1957, ocean net fishing for salmon was completely restricted by act of Congress. Canada also closed high sea net fishing for salmon for Canadian fishermen.

It is also clearly evident that the shallow shoreline areas (in places) most affected by excessive amounts of pollution is the nursery area of crab, smelt, herring, cod, and bottom fish. It is in these shoreline bays and inlets in the vicinity of pulp and paper mills that continued fish kills exist.

It was also indicated by those who seek to maintain free dispersion of their waste into public waters, that the reason Dungeness crab landings had declined in Puget Sound was because it was more economical to fish these commercially in the ocean along the coast. This analysis of the situation is completely wrong. We still have a sufficient number of crab pots in the waters of the Puget Sound area during open season to capture large quantities of legal size male crab providing they are available.

Dungeness crab migrate along the bottom areas to feed, mate, and shed their shell. No female crabs are taken. One female crab bears up to a million eggs; under existing regulations they could not be fished out if environmental conditions remained favorable.

With the expansion of the pulp and paper mills in the vicinity of Everett, Port Townsend, Anacortes and Bellingham, Dungeness crab began to disappear. Those landed in these areas, after the expansion of the mills, became discolored and marked with what appeared to be decayed organic sludge released from the mills.

My brother and myself purchased crab from fishermen fishing near Everett, Anacortes, Blaine and Bellingham during the 1930's and up to 1942 and occasionally after this time and we observed a gradual decline and poor condition of the crab.

In the Blaine area where there are no pulp mills, in spite of a heavy American and Canadian fishery in Boundary Bay the crab have continued to be plentiful and in good condition.

It is evident that the ordinary person can readily observe vast differences in the physical condition of water and marine life in grossly polluted areas, when comparing them with the similarly situated areas of the unpolluted areas of San Juan Island and Hood Canal.

No one, to my knowledge, has suggested the closing of a single pulp and paper mill. The general consensus of opinion of our citizens is in support of the State Pollution Control Commission's directive for the pulp and paper mills of this state to provide proper treatment of their waste before releasing it into public waters, or for them to submit an alternate plan for proper disposal of their industrial waste.

We appreciate and praise the orderly and constructive manner in which the first Joint State and Federal Hearing on Water Pollution Abatement and Control was carried out.

Sincerely,

/s/ Milo Moore p

MM:ls /t/ Milo Moore, Fisheries Consultant

MR. BERGERSON: The next speaker will be Mr. R. N. Steele of the Rock Point Oyster Company. Mr. Steele

STATEMENT ON BEHALF OF ROCK POINT OYSTER CO.

(By Mr. R. N. Steele)

MR. STEELE: I am R. N. Steele of the Rock Point Oyster Company.

Gentlemen, in 1921, the Rock Point Oyster Company was formed. With its formation, a new industry was born, for its planting of Pacific Oysters in the spring of 1922 was the first commercial planting of Pacific Oysters to be made.

The Pacific Oyster thrived in the northern waters of Puget Sound in abundance and after a few years, industry sprang up in other parts of the State. By the middle 1930's, the production of Samish Bay was something over a hundred thousand gallons a year and that of the Rock Point Oyster Company was thirty to forty thousand gallons a year. This production was continued through the war years but began a substantial decline in 1947, '48 and '49.

It soon became apparent that the cutback in production could not be overcome by increase land holdings. We had nearly doubled our land and for a few years greatly increased oyster seed plantings; but the oysters failed to develop and fatten. Of the three operating shucking plants in Samish Bay, one closed and the other two operated only part time, with drastically reduced crews. The Rock Point Oyster Company once employed sixteen openers. We now attempt to maintain a crew of four openers in our salvage operations. During the year 1961, we harvested five thousand gallons of our own oysters. We harvested and processed a like number of gallons for other growers who attempted to salvage a few dollars from their investments. Their probable recovery is about fifty cents on the dollar of investment made five to ten years ago. In all probability, ninety percent of the remaining oysters will be salvaged and the ground will be idle within the next five years.

What has caused the loss of fine fisheries industries to Samish Bay? We had a good look around and found that nothing had changed that could affect the water to any great extent, except the flow of sulphite waste liquor into the adjacent waters of Bellingham Bay.

With study, we learned that the production of pulp had increased from a meager seventy tons a day to two hundred tons and then following the war to five hundred tons a day. We asked the State of Washington Pollution Commission to sample our waters. They had not been able to detect sulphite waste liquor over our beds, but in 1957, they came up with samples of forty parts per million or more. Since then, traces of this effluent have been found on every sampling trip over our beds and large quantities are present when the wind prevails from the north during our active growing seasons. This effluent is very detrimental to aquatic life. Sulphite waste liquor definitely kills oyster larvae and spent chlorine bleach will reduce the feeding cycle of oysters by over fifty percent.

We feel that if the sulphite pulp mill in Bellingham will eliminate eighty-five percent of its sulphite waste liquor effluent and not exceed its present production of five hundred tons a day, our industry can survive. In such a reduction, the effect would be that of a seventy-five ton mill. This mill has been ordered to present such a plan of reduction as part of the requirements of several permit renewals and to my knowledge, has refused. If this practice is allowed to continue and no abatement effected, the loss of other industries will soon follow.

At one time, I had hoped that one or both of my two sons might find his place in life in some phase of the oyster industry. Now, I cannot see a future for anyone in the fisheries industry if this tide of pollution continues to rise.

Thank you.

I was asked by Mr. Oglivie of Seattle who gained a number of petitions if I might submit this at the present time?

CHAIRMAN STEIN: That will be accepted and made part of the record.

MR. STEELE: May I read the petition? "We, the undersigned, wish to go on record as being in favor of enforcement of pollution control in the waters of the State of Washington, pertaining in particular to the paper-pulp industry. Considering the damage done to public health, fisheries industry, the resort industry, sports fisheries and other activities, it is necessary that the paper-pulp industry be required to comply with the regulations of the Pollution Control Commission." And I understand there are approximately five hundred signatures here.

(Petitions referred to herewith appended to original record under "Appendix to Statement on Behalf of Rock Point Oyster Co., by Mr. R. N. Steele", as Appendix A-1 to A-27.)

CHAIRMAN STEIN: Thank you. Mr. Steele, I was interested in that portion of your statement where you said you reviewed the requirements of the State Commission.

MR. STEELE: Yes.

CHAIRMAN STEIN: In connection with the mill close to you -- close to Samish Bay.

MR. STEELE: Yes.

CHAIRMAN STEIN: Do you believe that these requirements of the State Commission are reasonable and you'd like to see them work?

MR. STEELE: Well, I'm not an engineer, sir, but to my knowledge, they were not given a specific requirement. They were asked to submit a method in which eighty-five percent could be abolished and it was -- to my knowledge, this report had never been issued -- had never been issued to the Department. Also, there were to be quarterly reports and I was never able to find out if these reports had ever been received. To my knowledge, they were not.

CHAIRMAN STEIN: Thank you. Do you have any questions?

MR. DWORSKY: Either to you or perhaps Mr. Milo Moore might comment upon this also -- but aside from the effect of pollution on present shellfish growing areas, are there growing areas which could either be revived or extended or enhanced, if existing pollution could be rolled back, in your estimation?

MR. STEELE: You mean existing beds or beds that have been abandoned?

MR. DWORSKY: Either, is there land that could be further used for shellfish growing if pollution could be reduced? Would this possibly make additional lands for this industry?

MR. STEELE: Some additional lands. One of the shellfish industries that has not been exploited but Mr. Moore has been attempting to attain an increase in the industry here in the State is the clam industry; and there are thousands of acres of land that could be used for the cultivation of claims that are in areas that are now polluted.

MR. DWORSKY: Would Mr. Moore care to comment upon that?

MR. MOORE: Mr. Chairman, I would say that where the waters are not too swift, there was a good interchange of natural sea waters of Puget Sound, away from the mouth of the rivers a bit -- practically all the waters of Puget Sound are suitable for growing shellfish. Away back is not too good. We're bringing in new species of oysters now that will propagate and grow in eight to ten degrees lower temperatures than the Pacific Japanese, which were brought in here in 1922; and that's the mainstay of our oysters now, outside of the natives. The waters of Puget Sound are valuable wherever there isn't too much turbulence and there is a good interchange of tidal flow.

MR. DWORSKY: Thank you, Mr. Moore.

MR. STEELE: I would like to add that in Samish Bay, there are about five to six thousand acres which possibly -- that is, are either oyster or clam-producing grounds capable of producing oysters or clams and of this acreage, there are probably only oh, maybe a hundred acres that are currently actively producing commercial oysters. That is, of commercial quantity -- quality. Thank you.

MR. DWORSKY: Thank you.

MR. BERGERSON: Thank you, Mr. Steele. There was one statement made on the matter of quarterly reports which probably should have some mention. I would say that by and large, the quarterly reports have been submitted by the pulp industry as they've indicated they would.

(Data received by Public Health Service, Water Supply and Pollution Control, PNW, on January 25, 1962, herewith included in the record under "Appendix to Statement on Behalf of Rock Point Oyster Co., by Mr. R. N. Steele," as follows: Letter on letterhead of Rock Point Oyster Co., dated January 19, 1962, by R. N. Steele, as Appendix "B"; "Record of Pacific Oyster Seed Imported by Samish Bay and Padilla Bay Growers 1947 thru 1961, Record of Pacific Coast Oyster Growers Assn.", as Appendix "C"; graph of "Oyster Production - Rock Point

Oyster Co. - Pulp Production - Puget Sound Pulp & Timber Co.", as Appendix "D".)

MR. BERGERSON: The next speaker will be Mr. Nat Waldrip of the Olympia Oyster Growers Association.

STATEMENT ON BEHALF OF OLYMPIA OYSTER GROWERS ASSOCIATION

(By Mr. Nat Waldrip)

MR. WALDRIP: Ladies and gentlemen, members of the Commission and Mr. Chairman, the Olympia Oyster Growers Association would like to take this opportunity to commend Governor Rosellini in the most timely and appropriate action in calling for Federal aid in the area of water pollution control in the State of Washington. We concur also in the released statement by Commission Chairman Coe in that this action will aid in the acceleration -- in accelerating the implementation of orders issued by his State Agency.

Basically, the lack of initiative on the part of the pulp and paper mills in the State of Washington is a major concern of the oyster industry. In spite of the admitted capability of the pulp mill industry to recover in excess of eighty-five percent of the sulphite waste liquor discharged in the pulping process, this group has continually refused to make the necessary changes to safeguard purity of public waters.

In the area of Northern Puget Sound in particular, the mills have for years been operating under one-year temporary permits, reissued each year with no apparent movement towards an adequate waste recovery program. In spite of numerous complaints by other water users, submitted temporary waste disposal solutions, and orders issued by the Washington State Pollution Control Commission of a long range control program for each individual mill, these mills continue to procrastinate and have recently threatened mill closures in lieu of adequate waste disposal facilties. In actuality, the waters of the State of Washington have been subsidizing these pulp mills for years with the cost of fish and shellfish declines and a general deterioration of tidal conditions that the boating public and the waterfront owner should not be expected to accept.

As a comparison, these mills with their water subsidy, have a financial advantage over the few mills in the State, with a recovery program or those in neighboring states as Alaska, which as a building requirement, have mills with processes for waste recovery in excess of eighty-five percent. From a financial standpoint, the reluctance of the pulp industry to eliminate waste has created a poor industrial climate because of the excessive load now being carried by these waters. Future industries with a need for pure water can be expected to locate where neighboring water users take their responsibilities seriously with an eye for expansion and the recreational use of their employees.

The effect of sulphite waste liquor on the aquatic environment is vividly demonstrated in the Southern Puget Sound area. Pulping wastes, discharged into Oakland Bay at Shelton and detectable as far as seventeen water miles away, ceased in August of 1957. Since that time, the Olympia Oyster, almost extinct from twenty-five years of pollution, has shown a three hundred percent increase on its way to rehabilitation. As in the case of the Olympia Oyster, the smelt, trout, herring, salmon, clams and in fact, the entire environment of local waters has made a like recovery.

Based on the experiences of the past thirty years, through a steady decline and final upturn of our product, from association with oyster growers in other areas, and from observing the evasive tactics of the majority of the pulp and paper industry, we wish to make the following suggestions to the Water Pollution Conference:

Number 1: The Washington State Pollution Control Commission has studied each pulp and paper mill in the State and have made suggestions pertaining to improvements in waste recovery. We believe these suggestions should have a cumulative effect of eliminating eighty-five percent of their wastes.

Number 2: The interests of the public waters can best be served by implementing these suggestions without further delay. We believe the dates within these Commission orders to be fair and equitable and should they be exceeded, the penalties prescribed in the Washington State Water Pollution laws should be enforced, as well as withdrawal of their permits until such time as compliance is forthcoming.

Number 3: Our Association firmly believes in the National Credo:

"Users of water do not have an inherent right to pollute.

"Users of public waters have a responsibility for returning them as nearly clean as technically possible.

"Prevention is just as important as control of pollution."

Thank you.

CHAIRMAN STEIN: Thank you, Mr. Waldrip. Are there any comments or questions?

MR. DWORSKY: Mr. Waldrip, you noted something about the times that you have been concerned -- the length of time that you have been concerned with this problem, or that your industry has been concerned. You mentioned figures of twenty-five years and thirty years?

MR. WALDRIP: That's correct.

MR. DWORSKY: During the course of this period or for how long have you been actively seeking to get remedies in this situation and are there any particular highlights that --- (interrupted)

MR. WALDRIP: The only remedies that were open to our industry were legal remedies under civil law. There have been, in the past, four separate legal actions instituted against the major sources of pollution in our area.

MR. DWORSKY: You've attempted, through this method, to seek some remedies?

MR. WALDRIP: As well as through legal channels through the Washington State Pollution Control Commission.

CHAIRMAN STEIN: Mr. Waldrip, were you familiar with the operation at Shelton before 1957?

MR. WALDRIP: Yes, I am.

CHAIRMAN STEIN: How was a determination made or did you ever see the effects of this pollution -- it says "out seventeen miles"?

MR. WALDRIP: Yes.

CHAIRMAN STEIN: Could you describe the basis of that?

MR. WALDRIP: Well, in 1957 -- I might digress a little bit -- the legal actions I mentioned were instituted in the early '30's, in the late '30's and in the middle '40's. Each and every time that we made an effort to get any relief, we were not able to definitely pinpoint the presence of liquor over existing oyster beds, because of the fact that the methods were not available at that time. In 1957, a method was developed by the Oceanography Department of the University of Washington whereby sulphite waste liquor is detectable in minute amounts. In 1957, liquor was detected over oyster areas seventeen water miles away from the mill. At that time, we made a protest to then Governor Langley and made protest to the Washington State Pollution Control Commission and since that time, for financial reasons, the mill was closed down in Shelton, in 1957, I believe it was, in August. Since that time, the reproduction of Olympia Oysters has increased tremendously. The production of Olympia Oysters has increased three hundred percent.

CHAIRMAN STEIN: Now, let me ask you, Mr. Waldrip -- you live in that area right now, don't you?

MR. WALDRIP: Yes, I do.

CHAIRMAN STEIN: To your personal knowledge, do you believe that these oysters have increased? Have you seen that and in addition, salmon, smelt, trout and clams?

MR. WALDRIP: That's correct.

CHAIRMAN STEIN: What are the evidences in just a general way? How did you determine that the smelt, trout and salmon increased?

MR. WALDRIP: Well, I live and have lived for, oh, six to eight years right on the waterfront of the area in which I raise oysters. Smelt are very evident in their increased volume in spawning upon the beaches and in the immediate area. Herring can be seen in abundance in schools. The salmon return is likewise evident in their --- (interrupted)

CHAIRMAN STEIN: What was your experience before 1957 -- how did you detect their absence then?

MR. WALDRIP: Well, they just weren't there. You would go out and fish for them and you wouldn't catch a thing. It was just a void.

CHAIRMAN STEIN: Thank you. Are there any other questions? (No response)

MR. BERGERSON: I have a short statement that I have been asked to read into the record. It's a statement presented to the Federal-State conference on water pollution, Olympia, January 17th, 1962, by the Honorable Francis Haddon Morgan, State Senator, 23rd District, State of Washington.

"I am Senator Francis Haddon Morgan of Bremerton, State Senator for the 23rd District. I wish to speak as a member of the Ways and Means Committee of the State Senate and also as a member of the Fisheries Interim Committee.

"I congratulate the Pollution Control Commission on its accomplishments so far. I urge immediate, aggressive, positive action for further pollution abatement of Washington State waters."

That's the end of the statement.

The next speaker will be Mr. John Eyer, International Representative of the Sulphite Workers Union of America.

Mr. Eyer.

STATEMENT ON BEHALF OF PULP, SULPHITE & PAPER MILL WORKERS

(By Mr. John Eyer)

MR. EYER: Mr. Chairman, my name is John Eyer. I am International Representative for the Pulp, Sulphite & Paper Mill Workers. I am a full-time representative of about ten thousand people in the State of Washington. This is not the total number of employees in the pulp and paper industry. It is the approximate number of those represented by our Union; and my concern is a rather simple one:

I am concerned with the job security of those people. Now, being a union representative it's in the nature of my job that I spend almost all of my time in disagreeing with the employers in the pulp and paper industry. And I am not going to attempt to speak for them today. As a matter of fact, I did not come prepared to make any statement. As it has been brought out here, there have been a number of separate hearings scheduled, involving the mills in this industry and our International Union intervened in each of these hearings because we do have an interest as representatives of these employees.

I was assigned by our International Union about three months ago to survey the situation, to help determine the position the International Union would take in each of these hearings. I have been at this about three months and I can assure you this does not qualify me as an expert; and I am not going to pose as an expert. I state this because I was not aware of the scope of this conference until it was stated yesterday morning and our work had been in the direction of action in these individual hearings.

I enjoyed the remarks Mr. Stein made in opening this conference, in which he talked about the responsibility of the two agencies represented here, to arrive -- and I believe it was his term -- "an equitable solution" -- and I am sure that we all commend that; and I am sure that the tasks of both of these groups in arriving at an equitable solution will not be an easy one. And I think that from some of the atmosphere present yesterday -- late yesterday afternoon and a little bit early this morning, that it seems to me there's quite a lot of emotion involved -- there's a degree of impatience and somehow or other, I have the uncomfortable feeling that there are some representations made here that would indicate that these spokesmen would be satisfied only with the liquidation of the pulp and paper industry in the State.

For instance, yesterday, one of the gentlemen, I believe representing a fisheries -- fishing group -- was commenting on the situation at Anacortes, where some of the liquors -- the spent liquors that previously had been discharged into the Bay, were being used as road binder. Now, we thought that this would be commended, that the use of this for some other purpose rather than in the bays would be a commendable action. But he then attacked the use of it on the roads and I don't know whether we're going into the area of road pollution or not, but it does suggest that at least some of these spokesmen, no matter what steps would be taken, might pursue with harrassments that might bother us.

Now, I'm quite confident that the gentlemen here are capable of reconciling these things but it does make me think of the situation in Ketchikan, Alaska, some seven years ago, when the first pulp mill was started in Alaska, and I organized that mill. Shortly before the mill was to begin, there was a petition being circulated by one of the temperance groups, who wanted to prevent the operation of the mill because they had learned that the parent mill at

Bellingham was producing alcohol. (Laughter)

Now, I cite this because I think there is an emotional air here and indications of impatience that bother me a little bit, because I don't feel this way about all of the other groups. I don't feel that the sportsmen groups and the conservation groups and the oyster groups are my enemies. I think that in the equitable solution and in compliance with the mandate of the people of Washington, that we're going to have fish, we're going to have crabs, we're going to have clams, we're going to have oysters and we're going to have mill payrolls.

Now, I've always hoped that in this direction, that I could at some time discuss the problems of our people -- the people I represent, with these various groups -- with the Isaac Walton League and the sportsmen's group, without being charged with infiltrating those groups. And I believe that term was used yesterday too. I think that we do not -- and our task isn't to make that kind of a choice, really. And I have confidence that both the Federal and the State agencies will give full consideration to all groups.

I might say that speaking for the members of our Union, most of whom I know rather well -- all of them have a profound affection for the State of Washington. They're real proud of it. It is their State. They feel strongly about it and I'm sure we're relying on you to protect their interests.

I would make one brief comment. As I said, that I am not a technical expert, but I would -- and this is merely caution, because one speaker this morning again got into the area -- the economic area -- the technical area of the mills. He talked about the processes that are available and he used the figure "eighty-five percent". Now, I would caution against any glib assumptions in this connection; that the pulp and paper industry is not a single, simple thing. There are a wide variety of products, a wide variety of processes and I am not expert enough to know just exactly what kind of an operation would be economic, but I suggest that some of the other people who were testifying in this regard, are not qualified either. I suppose that from an economic standpoint at least, the ultimate solution may not have yet been found; and I do know this about companies and all companies -- not only in the pulp and paper industry -- they really like to make money. And if somebody can show them from the economic standpoint that an operation is profitable and will satisfy everybody, I have a feeling that they will be vitally interested.

Now, in closing, I would say again, my original premise, that my concern is solely with the ten thousand people I represent. I trust and hope that their interest will be protected. I think if they are not, of course, this would represent a failure on the parts of a good many of us. Thank you.

CHAIRMAN STEIN: Thank you, Mr. Eyer. Any comments or questions?

MR. BERGERSON: Thank you, Mr. Eyer.

MR. DWORSKY: I'd like to make a comment here. I think there was an implication here, Mr. Eyer, that -- and I don't think that you said it completely, but I certainly felt the implication that before an industry may want to undertake to do the remedial actions that may be necessary to stop pollution, that there must be a process that must be economical. Was this the kind of process you were referring to?

MR. EYER: No, I didn't mean to imply that at all. As a matter of fact, I was trying to avoid getting into this area. I was hoping to emphasize that I was not qualified to make this kind of a judgment and I felt that a number of other people who were, I felt making this kind of a judgment, were not qualified either.

MR. DWORSKY: Well, this was interesting to me because across the country and through the half century of work that we've entered into with respect to abatement of pollution, the problem of having to pay for this thing of course is always present and to abate pollution, we've got to pay for it. And if we have to wait and I am glad you indicated you weren't inferring this -- but if we have to wait until we find a process by which we can treat these wastes in order to make a profit, this will never solve the problem for sure.

MR. EYER: No, and I was only going to the statements -- to the implications from some people who I thought were not experts who were implying that this was automatic.

CHAIRMAN STEIN: Thank you, Mr. Eyer.

MR. BERGERSON: I have an additional statement that I have been requested to read into the record. It's addressed to Mr. Murray Stein, Conference Chairman, Chief of the Enforcement Division, U. S. Public Health Service.

"Dear Sir: It may be possible that the State of Washington at long last will be able to attack the pollution problem without having to back down or 'soft pedal' enforcement because offenders threaten 'loss of payroll and food from babies' mouths'.

"Washington has had a sorry history of this sort of thing. We hope that under Section 8 of the Federal Water Pollution Control Act, positive action can be taken to abate the problem. If the State cannot, and apparently that is the case, enforce its own laws, then the Federal Government must and should step in and do it for them.

"We must have complete and not piecemeal enforcement and clean-up as dictated by the power plays of the pollutors. Preference should not be given to certain individuals to continue polluting every time they flex their economic muscles. Water is a resource belonging to everyone and can be used many times if not polluted and should not be considered as belonging only to those who are most proficient at polluting it. If the State of Washington should lose in this particular pollution abatement test, it will go without saying that all other water uses will be downgraded because pollution will get the upper hand. It should take little reasoning to know that such a situation would be a severe blow to other water users in the State and to the future of the State. We certainly hope that the Federal Government will be very militant and exercise their full powers to bring about pollution abatement as it should be in this State.

"Please make this letter a part of the record and hearing.

"Very truly yours, Howard E. Nelson, Secretary, Washington-Lower Columbia River Sportsmen's Council."

CHAIRMAN STEIN: That's fine. Are there any comments or questions on this?

MR. DWORSKY: No.

CHAIRMAN STEIN: Do you want to go forward?

MR. BERGERSON: Yes. The next speaker will be Mr. Vint Bacon of the Northwest Pulp and Paper Association.

MR. DWORSKY: I just wanted to say that in terms of some of the others that were short and he is taking this -- he is taking down the record apparently, in the record, so it will come out as it goes into the record.

STATEMENT ON BEHALF OF NORTHWEST PULP AND PAPER ASSOCIATION

(By Mr. Vinton W. Bacon)

MR. BACON: Mr. Chairman and conferees, if I understand what you were saying, Mr. Dworsky, unless the record is going to show what I present here, is that correct, and not what I put in front of you?

MR. DWORSKY: Yes, I wanted to be sure that you would know that because the Reporter had mentioned that to me this morning -- if you wanted some material in which you perhaps are not going to read, I think that we ought to be aware of it so that it will surely get into the record, you see?

MR. BACON: All right. Thank you.

My name is Vinton W. Bacon. I am Executive Secretary of the Northwest Pulp and Paper Association, Tacoma, Washington, on whose behalf I am speaking. The purposes of our Association are research and technical studies on the solution of air and water pollution problems and public information relating thereto.

In response to your invitation of January 8, 1962, we are pleased to appear and participate in this joint State-Federal conference on problems of water pollution in this area. In the news release dated January 2, 1962, which was attached to your letter of invitation, the authority, purpose and scope were delineated as follows:

"The conference, convened at the request of Governor Albert D. Rosellini, is called under the provisions of Section 8 of the Federal Water Pollution Control Act. There will be general reference to state-wide waters, but specifically, the conference will examine (1) the occurrence of pollution in Puget Sound and the Straits of Juan de Fuca, plus tributaries and estuarial waters; (2) the adequacy of measures taken toward abatement of the pollution; and (3) the nature of delays, if any, being encountered in abating the pollution."

Since the Federal Government has been invited to participate as assistant to the State of Washington, a measure of existing conditions should begin with an examination of the controlling features of the Washington Water Pollution Control Act. This Act requires the State (1) -- of the State (1) the issuance of waste disposal permits unless the State finds that the disposal of waste material as proposed will unduly pollute State waters, and (2) the determination of what qualities and properties of water shall indicate a polluted condition. Thus, the Washington Act recognizes that waste disposal is a necessary and beneficial use of water but that water standards which define undue pollution are prerequisite to regulation of waste to protect other beneficial uses of water. Consistent with the protection of public health and wildlife and consistent with the industrial development of the State, the State may require use of all known available and reasonable methods to prevent and control water pollution.

There may be doubt in the minds of some, but not ours, of the concepts embodied in the Washington law. Therefore, it does seem germane, before considering the substitution of Federal law for State law, to compare opinions of some of the national water authorities and groups with the basic features of the Washington law.

In its recent publication "Our Growing Water Problems", the National Wildlife Federation said in the chapter on waste disposal:

"The most important use of water, except for drinking, is for waste disposal. It is a natural use. The civilization we know could not exist without streams to carry away man's wastes. Yet, this use generally gets only incidental consideration when water use legislation is proposed."

In a report to the U. S. Senate Select Committee on National Water Resources, the U. S. Geological Survey, one of the Nation's most thoughtful and efficient water agencies, said:

"Waste disposal is a beneficial and essential use of water. Although not usually classified as consumptive, a part of the total supply available must be allocated to waste disposal. Excessive withdrawals can deteriorate water quality as much as excessive pollution."

In another report to the Senate Select Committee, the U. S. Geological Survey stated:

"To say that man must stop generating pollution problems is to say that man should stop using water. This is, of course, unrealistic. The transport of wastes from home, factory or farm to the sea is a beneficial use of water. As with individual liberties, however, there is a limit to which one can go before his actions become offensive to his neighbors and must be regulated for the benefit of the community as a whole. The lack of techniques" -- and I'm still quoting -- "for preventing pollution limits the degree to which water quality can be improved by regulatory means. The realistic problem is how to handle wastes -- not how to stop waste disposal."

The U. S. Senate Select Committee itself in its final report, said:

"Even when advanced practices for waste treatment are applied, large quantities of water are needed for waste dilution if water quality standards are to be maintained, which safeguard domestic supplies and permit use of lakes and streams for outdoor recreation purposes and for fisheries."

In a comprehensive discussion of all aspects of water titled -- and this is the title of the publication -- "On the Waterfront", the League of Women Voters of the United States said:

"Since pollution can be controlled, the basic questions are: How and how much? There is no need to bar people and industry from easy and economical means of waste disposal as long as such disposal does not unreasonably impair the other values of the streams. Sound control starts from this premise. The big problem is where to draw the line."

Although many of these and other references address themselves primarily to streams and fresh water, the same concepts of economical waste disposal through dilution and dispersion and the definition of pollution based on needs and benefits are inherent to sound management of marine and estuarial waters.

The Federal Water Pollution Control Act states that pollution of interstate or navigable waters which endangers the health and welfare of any persons shall be subject to abatement.

Industrial wastes of the pulp and paper industry do not constitute a health problem. They do not contain pathogenic bacteria -- that is, disease-producing bacteria as does municipal sewage. Recently, the Examiner selected to hear the appeals of nine pulp and paper mills on permits issued by the State on May 19, 1961, stayed the permits pending hearing, finding in the order of stay that no emergency affecting the public health exists due to the pulp mill wastes.

Thus, the question is whether the welfare of persons is endangered.

The pulp and paper industry, for use in processing and cooling, withdraws prodigious quantities of fresh water. Water withdrawals are from ten to forty million gallons per day and are common in that order of magnitude. The four Everett mills take in considerably more water than the City of San Francisco. The Longview pulp and paper mills use slightly more than the City of San Francisco.

Over ninety-five percent of these waters, after serving a useful purpose and adding to the economy of the State, is discharged as waste waters. Because of the extensive and expensive facilities which our industry has provided to treat and dispose of its wastes, we believe we are not endangering the welfare of others; that we are not causing unreasonable or adverse harm to other beneficial water uses, and that we are not the cause of salmon declines or oyster problems.

It is extremely important to the U. S. Public Health Service and the purposes of this conference to ask, "What are the actual effects of the waste discharges upon the respective water uses?" Each area is different, and it is impossible within reasonable time to aid you in examining water and biological conditions in all areas where pulp mills operate. But by examining a few, we hope to demonstrate our points and to provide data helpful to your considerations. The data, simplified somewhat for this presentation, draw upon not only specific private references but also upon all known and available published records of Governmental agencies.

The conferees are urged to review carefully and critically all of the original data presented and referred to here to better evaluate the conditions.

Now, Preston, may I have the lights out? We're going to use slides to illustrate the points that we're making in our statement and all of these illustrations will be made a part of the record.

CHAIRMAN STEIN: Pardon me, Mr. Bacon, but are you going to make these slides available?

MR. BACON: All of these will be made available to you in glossy prints so therefore they can be made a part of the record, yes, sir.

MR. COE: Mr. Chairman?

CHAIRMAN STEIN: Yes.

MR. COE: Could I ask Mr. Bacon a question?

CHAIRMAN STEIN: Yes.

MR. COE: I notice, Mr. Bacon, that you didn't follow exactly your printed story here. Was that intentional or unintentional?

MR. BACON: I made some omissions that I thought were not consequential and any other changes that I have made in wording, Mr. Coe, will have to stand in the record as I have made them. I made them intentionally, yes, sir.

CHAIRMAN STEIN: Mr. Bacon, may I ask if you could get us two glossy prints of each.

MR. BACON: Thank you. We will, sir.

CHAIRMAN STEIN: Because -- and I'd like to present the problem we may have in reproduction of the record. If possible, as many of the prints that is economically feasible will be used. If we cannot reproduce them as part of the record, there will be a notation in the record and these prints will be available as part of the permanent record at both our Washington, D.C. and Portland office.

MR. BACON: We will make two prints -- glossy prints of all of the illustrations available to you and we'd like to request now that all of them be included because we think they all are germane to the record. If we had not used the prints, we would have to have used other pictures -- many more illustrations. Thank you.

(Slide shown)

MR. BACON: It will be seen from the map that the Bellingham area is subdivided into Bellingham Bay proper and Samish Bay. Bellingham Bay proper will be further subdivided into an "Inner Bay" including that area directly adjacent to both the Puget Sound Pulp and Timber Company Mill and to the mouth of the Nooksack River; and into an "Outer Bay", including the much larger portion of the more open waters.

I think maybe Mr. Pointer, you can sharpen that focus up so that we can follow you more easily.

Analysis of all data from all sources for the years from 1955 through 1960, which in this case involve a total of six thousand five hundred individual tests for spent sulphite liquor alone, shows that the mill discharges, together with natural sources of reacting substances, result in indicated SSL concentrations in the immediate mill area of from zero to one hundred parts per million for approximately eighty percent of the time. The average value for all time periods is about fifty parts per million. Further dispersion rapidly takes place so that by the time the mouth of Samish Bay is reached, this concentration exceeds ten parts per million only one percent of the time, with mean concentrations in the range of zero to five parts per million. It should be noted that these levels are so low as to be incapable of exact definition, since they are within the threshold range of physical determination and natural occurrence of similar substances.

Dissolved oxygen values, probably the most commonly accepted criteria of possible organic pollution, are at normal field saturation levels of unaffected marine waters in all portions of Bellingham Bay with the sole exception of the mill outfall area itself, an area of approximately one thousand yards or less from Whatcom Creek waterway. Within this area, oxygen depressions are commonly observed, primarily as a result of the discharges from the pulp mill and Bellingham City sewerage system. For the dispersion zone of "Inner Bellingham Bay", the mean depression of oxygen attributable to spent sulphite liquor is still less than one-half parts per million.

Some sludge-bed formation has taken place in the general Whatcom waterway area, again as a result of the pulp and paper discharges, the Bellingham sewerage system, and the log-booming activities of the area. However, very recent studies by the mill and the State Pollution Control Commission, as well as a very comprehensive study by the University of Washington, have shown that these deposits are both shallow and localized in their occurrence, being again limited to an area within one thousand yards or less of the activities about the Bellingham waterfront and with maximum depths of one meter or less. Total volatile solids for bottom samples range through the order of eight to twenty percent in the zone of heaviest deposition, with the normal values of this area not yet determined. Wood chips, bark fragments, and so forth, constitute nearly all of the identifiable organic portion. Fibers are virtually nonexistent. Active sludge formation as evidenced by hydrogen sulfide is extremely limited, being detected in only two out of the total of sixty-nine bottom grab samples taken by the University of Washington.

Before leaving this slide, I would like to have the pointer show us that Chuckanut Bay is half way between the mill and the Samish Bay area; that Eliza Island is also half way between the Bellingham mill and the Samish Bay area; and that Clayton Bay is at the northerly portion of Samish Bay. Thank you.

Basic biological production in the Bellingham area has been found to be at a high level and normal in nature and diversity. Figure 2 shows the diversity which is quite normal for areas unaffected by pollution, of the diatom population of Samish Bay.

CHAIRMAN STEIN: Mr. Bacon?

MR. BACON: Yes, sir.

CHAIRMAN STEIN: I wonder, if based on the first chart, and I hate to interrupt you because I know the second is moving right into -- follows the first, but is it possible for us and our technical staff to get the full set of figures that your remarks were based on?

MR. BACON: This check will have to be made to determine the status of their study. This is the status upon which we are reporting. Whether they are completed or not and whether they can be made available to you will depend upon the individual mill. We're entering these as facts from this area from studies that have been made. Does that answer your question, Mr. Stein? I don't know whether they --- (interrupted)

CHAIRMAN STEIN: Yes, that answers my question, but I think as a full determination of the Public Health Service, one question comes to mind. For example, you had one point where it said in eighty percent of the cases, you had a certain situation, which wasn't critical. We have had many pollution situations in the country where twenty percent of the time we had a critical situation and all bottom life were wiped out and the stream did not recover for a year. Now, I am not saying that this -- and I would hope and expected this would not be the case here. But the problem is in not having these figures, these questions are going to be raised with us and we'd like to be able, if we could, to be able to supply some answers to them.

MR. BACON: Mr. Stein, the conditions we are showing you are considered by us and our scientists and biologists to be typical. We are not taking the average conditions and simply saying, "These are average" without trying to portray to you we believe these are the day in and generally the day out conditions in that area and that these conditions are such that other water uses are not being harmed, as we're going to show you as we go along. Our entire position is and the conditions we are showing you are typical of the area and that these conditions are supporting marine life and other beneficial water uses satisfactorily.

MR. DWORSKY: Vinton, you have a statement here of course that ties all together, and it may be that you would prefer not to have questions until the end. Would you prefer that or -- because it's a long statement.

MR. BACON: I think actually, if you could make notes of them, I believe that we're going to show you -- because allegations have been made here that bad oyster conditions exist in Samish Bay, that these mill effluents and these conditions -- the mill effluents have nothing to do whatsoever with those Samish Bay oyster culture problems and that frankly these conditions are better than some in areas that are classed as fine oyster cultural areas. This will all unfold in this presentation.

CHAIRMAN STEIN: I think we'll refrain from asking further questions; but the one I asked, I think we have got the answer -- that is, we will not necessarily get the full data?

MR. BACON: Many of these studies are being continued, Mr. Stein. We're presenting this today as a full report. Any further data added to the record will have to come at a later date and be decided at that time.

CHAIRMAN STEIN: That is, if it will come?

MR. BACON: Yes, sir.

CHAIRMAN STEIN: Right. Thank you.

MR. BACON: Figure 2 shows the diversity which is quite normal for areas unaffected by pollution, of the diatom population of Samish Bay. Note the number of genera, each represented by substantial percentages of the total and including representatives of eight of the major types of diatoms found in Puget Sound.

The next slide, Figure 3, shows that not only are growth rates high for the season, but also that there is no practical difference between the various sub-areas -- namely, Clayton Bay, Eliza Island and the mouth of Samish Bay. Phytoplankton production of North Puget Sound is compared with that found for South Puget Sound in Figure 4. Due to the difference of time covered, these should be compared with some caution; however, it will be noted that the North Sound growth rate is so much higher in acceleration than the comparative data available for South Sound that surely no one can class the North Sound as anything but good in the general sense.

If you will note this slide carefully, the rate was about ten times as great for the North Sound area.

One station, located approximately fourteen hundred yards from the waterway and in the path of the Nooksack River discharge, has shown a reduction in biological forms, but it has not yet been determined how much of this reduction may be attributable to industrial wastes and how much due to the fresh water and silt effects of the Nooksack River discharge. In any event, it may be seen that micro-biological production is very high in all of these general waters for each respective ecological niche.

Biological investigations in Bellingham Bay have also shown conventional intertidal forms of life to be present in profusion and normal in diversity. As an illustration, a special study was conducted for the native clams of the area with the finding that both the growth rates and the population composition would be considered as being from normal to excellent, based both on data available for other areas within Puget Sound, and also as compared with data published by the Research Board of Canada for comparable areas.

The next slide, Figure 5, depicts this growth rate for the native rock clam population of one of the commercial clam beds in Samish Bay. Samish Bay is represented by the upper solid curve. The lower curve represents the growth of rock clams on a long-established, successful commercial bed in South Puget Sound. Note that the North Sound growth rate is clearly equal, if not better.

It is recognized that commercial oyster culture in Samish Bay has been encountering difficulties which have not as yet been satisfactorily explained. However, biological studies have demonstrated that the severity of this difficulty does not correlate with the concentration of mill effluents; but actually appear more likely to correlate with the hydrographic factors of the area.

As a result of the unusually favorable water temperatures in 1958, a natural set of Pacific oysters occurred in Bellingham Bay, as in all suitable waters of the State. This has permitted an evaluation of water conditions relative to oysters in other areas of greater Bellingham Bay rather than Samish Bay alone. Examination of data obtained regarding this set by the Department of Fisheries as well as industry, shows no area relationship to spent sulphite liquor concentrations. The greatest natural set and survival, through the period of harvest, occurred in Chuckanut Bay in unquestionable commercial quantities. This bay, as we pointed out on Figure 1, is located half way between Samish Bay and the pulp mill, a portion of Chuckanut Bay actually being inside the plotted limits of the City of Bellingham. Chuckanut Bay is subject to mean spent sulphite liquor concentrations of the order of twenty-five parts per million. The extent of these natural oysters under these conditions may be judged from the accompanying Figure 6, showing almost solid ground cover of growing oysters. Figure 7 was taken in 1961, shows the reversion to bare tide flat following subsequent public harvest of these oysters less than three years after setting. It doesn't appear reasonable to conclude that Samish Bay oyster problems are due to spent sulphite liquor when Pacific oysters set and developed normally in Chuckanut Bay where SSL -- spent sulphite liquor concentrations are considerably higher.

Eliza Island also enjoyed natural sets of Pacific oysters in 1958. It too, is between the pulp mill and Samish Bay. Figure 8 shows a rock picked up in 1959. The arrows and the pink objects in this colored slide, show the oysters after one year of growth. Note the small oysters. Figure 9 shows a rock picked up in 1960. Note again, how these oysters have grown.

I would like now to talk about the Port Angeles area. Figure 10 is an aerial view of Port Angeles taken from over the Strait of Juan de Fuca, looking south to the Olympics. The harbor is about two and a half miles long and one and a half miles wide at its mouth. The Rayonier Mill is located on the easterly end of the City, Fibreboard Paper Products near the westerly end and Crown-Zellerbach's Mill at the westerly end on the spit. The harbor is used, as you can see in the foreground of the picture, extensively for log booming.

Water quality studies embodying dissolved oxygen, spent sulphite liquor, temperature, pH and similar criteria have been conducted by the State, culminating in the Pollution Control Commission Technical Bulletin Number 23, citing the hydrographic conditions of the area.

For a number of years, the mills have also been carrying out water quality investigations pertaining to conditions in Port Angeles Harbor. Recently, personnel from the Rayonier Marine Laboratory at Hoodsport, Washington, made an intensive survey of the harbor from October 3 to October 17, 1961. In excess of one thousand man-hours were spent in making physical observations and collecting over four thousand chemical and over one thousand biological samples. Fibreboard Paper Products has also recently expanded its water and bottom surveys.

Scuba divers were used to study and investigate bottom conditions relating to sludge beds and to sample organisms living on pilings and associated with the benthos. In addition to the utilization of Scuba divers for the capturing of sessile and motile organisms, beach seines were also utilized for this purpose. In the vicinity of the Rayonier Mill, where the water was colored by the mill effluent and contained suspended fibers, numerous net hauls were carried out.

Chemically speaking, the southern one-quarter of the harbor shows that it has been influenced by municipal and

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industrial wastes which enter into it. The northern three-fourths of the harbor shows characteristics which are equivalent to the waters found offshore in the Strait of Juan de Fuca. The average dissolved oxygen in the harbor was from four to five parts per million. These somewhat low values are to be expected at the season of the year when these samples were taken because the waters in the Strait have low DO concentrations at that time. Figure 11 shows the dissolved oxygen concentrations in the Strait of Juan de Fuca in the Port Angeles area according to University of Washington oceanographic surveys. It will be noted that DO concentrations of surface waters during October in 1953 and in October, 1954, were only slightly over five parts per million while subsurface waters shown by the bottom two graphs, were less than five parts per million, actually approaching three parts per million. Dissolved oxygen data in Technical Bulletin Number 23 of the Commission demonstrate very little effect of industrial and municipal wastes on the dissolved oxygen, indicating a depression of about one-half parts per million.

Some bottom deposits are present on about seven percent of the harbor bottom area. Transparency of the water is very good with vertical visibility ranging from twenty to thirty feet in depth. Only a very small portion of the harbor manifested turbid waters and, as would be expected, were in the vicinity of outfalls. Concentrations of liquor were greatest at the mill outfalls and rapidly decreased in a northerly direction. In spite of the relatively high concentrations of liquor in the vicinity of the mills, a large number of invertebrate fauna were observed as listed in Table 1. And Mr. Chairman, with your permission, may we include this as a part of the record? It is a long listing by Latin names of these organisms.

CHAIRMAN STEIN: Certainly.

MR. BACON: Thank you.

(Table 1 referred to herewith appended under "Appendix to Statement on Behalf of Northwest Pulp & Paper Association, by Mr. Vinton W. Bacon," as Appendix A.)

MR. BACON: Most, if not all, of these animals have spent their entire adult life in and around the very pilings on which the mill is built. Examples of some of this teeming variety of animals found in concentrations of liquor in excess of five hundred parts per million are shown below.

Figure 12 is a closeup aerial of the Rayonier Mill, the largest sulphite mill in Port Angeles. Marine life on the dock piling, at the point shown by the lower arrow was photographed at all depths by divers.

Figure 13 shows a diver in the process of taking photographs. It is important to note the color of the water against the flashgun reflector, visually demonstrating the high concentrations of wastes present at the dock location, literally under the mill.

Figure 14 -- and now we're proceeding down the piling -- shows a hermit crab and a spider crab, the latter partially under its natural camouflage of sea lettuce. The heavy sponge growth is in its proper ecological depth zone.

Figure 15 shows the clusters of plumed tube worms, together with the anenomes and barnacles accompanying the sponge in this general zone.

In Figure 16, we see the sponge fading out of dominance as we move down the piling, being replaced by new species of barnacles and anenomes as depth conditions change.

Figure 17 -- in Figure 17, still lower on the piling, the abundant marine life is dominated largely by barnacles and snails.

More elusive active swimming forms were regularly encountered at all depths, such as the sculpin shown in Figure 18.

Figure 19 shows a bottom area in the harbor. Sea lettuce, two species of anenomes, barnacles and encrusting forms such as the colonial bryozoa are shown. In this area, fish were again encountered as shown in Figure 20 and in Figure 21.

On one occasion, representatives from the Pollution Control Commission accompanied the divers and also observed the diversity and large numbers of living organisms. Figure 22 shows a Commission staff member photographing one of the industry divers as he surfaced with a ling cod he had just captured.

Table 2, which we would also like to make a matter of the printed record, is a listing of free swimming forms which were noted in and about the pilings of the Rayonier Dock. An abundance of organisms was observed swimming and feeding in the mill effluent at the actual time of these observations. Concentrations of liquor were in the range of one thousand parts per million and the apparent dissolved oxygen concentrations ranged from two to three parts per million. Microscopic and macroscopic examination of these animals did not reveal any unusual pathology. Examination of gut content revealed that they were feeding on a wide diversity of organisms found within the bay; for instance, the cod diet ranged from crustacea to fin fish.

(Table 2 referred to herewith appended under "Appendix to Statement on Behalf of Northwest Pulp & Paper Association, by Mr. Vinton W. Bacon," as Appendix B.)

Beach seining was conducted along the south shore of the harbor adjacent to the Rayonier Mill to better determine just how many and what kinds of fish might be present in the areas of highest waste concentrations.

The first haul was taken immediately over one of the outfalls located only a hundred and fifty yards east of the mill, at a point shown by the uppermost arrow in Figure 12.

The uppermost arrow. The results are shown in Figure 23. Note the mill in the immediate background, and the catch of fish including a sea-run cutthroat trout, flounder and herring and other fish. Figure 24 gives a better view of this catch, taken from a sludge area. Note also the fiber brought in by this net.

Figure 25 shows the sorting of the heavy catch made in the haul four hundred and fifty yards east of the mill which obviously intercepted a school of small herring, yielding three hundred and thirty-three of them. Six other species of fish and one specie of crab were also taken

Figure 26 shows the herring, flounder and crabs, together with six other species of fish taken in a haul five hundred and seventy-five yards east of the mill, while Figure 27 shows the herring, perch and other fish, a total of ten species including another cutthroat trout, taken seven hundred and fifty yards east of the mill, but still in the waste effluent path.

MR. DWORSKY: Vinton, I'm sorry, but these are going to go by and I'll never be able to get back to them. You made a note in one of the previous pictures that the picture contained fibers and I am trying to identify and you haven't mentioned it in the balance of these pictures -- are those dark areas there -- and I believe that they are probably decreasing in amounts, as far as I can tell -- but do those also represent fiber catches as well as fish catches?

MR. BACON: I cannot answer that question for you, Mr. Dworsky. Any seining operation would likely pick up bottom material. I do not know whether it is fiber there.

MR. DWORSKY: Well, I didn't know either. I just was commenting upon your previous statement and I was just trying to bring them together.

MR. BACON: The answer to that question, according to the man that seined it -- made the seining, namely, Mr. Tollefson, is no. The slide that we showed you, the first one where we pointed out the fiber, was in such shallow water at the outfall that they had to lift the net to get it over the outfall, so at that point, they were dragging bottom. In the other areas, they were not dragging bottom.

The catches of this seining are listed in Tables 3 and 4, both for the total and by individual haul.

(Tables 3 and 4 referred to herewith appended under "Appendix to Statement on Behalf of Northwest Pulp & Paper Association, by Mr. Vinton W. Bacon," as Appendix C and Appendix D respectively.)

The Port Angeles area provides a classic demonstration that pulp mill concentrations were not harming salmonids. Ennis Creek flows under the Rayonier Mill, entering the harbor at the middle arrow shown in Figure 12. Just a little bit to the audience's right of that arrow is the mouth of Ennis Creek, which flows under the mill. For many, many years, silver salmon and steelhead successfully, and in significant numbers according to old-timers, migrated both to sea and return -- through the very heart of the mill wastes. These runs were destroyed when highway and culvert construction completely blocked the upstream migration.

Recreational fishing in the area corroborates harbor, water and food conditions. This year, the Port Angeles Evening News reported the "Best Fishing in Years." And the results of salmon derbies, as shown in Figure 28, testified to the size and number of fish. Although outside the hook is favored by fishermen, many salmon are taken in the harbor. The harbor is a favorite for skin-diving fishing, several international competitions having been held in the area. And I might call attention to the conferees that I believe it is in the middle of March, the Northwest Scuba Divers and Skin Divers Association are again holding an international fish diving contest in the Port Angeles harbor area.

In summary on the Port Angeles area, the biological diving observations, the seine hauls, the photographs, the physical and chemical tests, and the recreational fishing, all demonstrate the suitable quality of waters and the exceedingly rich biota. We were pleased to note that one of our oyster friends agreed with this conclusion. Mr. Edward Gruble, appearing on KIRO-TV show in 1958 said -- and this is a precise quote:

"Port Angeles is located in an area where terrific tides take place. That velocity of the tides remove this effluent from that area, and I believe three mills in your area if I am correct, and they do not affect the fisheries of the State because of their location."

Figure 29 shows the Everett area. The Simpson-Lee kraft mill is at Lowell; the Weyerhaeuser kraft mill is on the Snohomish River; and the sulphite mills of Scott and Weyerhaeuser are on Port Gardner Bay.

Waste dispersion in the Everett area is believed to be very good, as demonstrated by the apparent spent sulphite liquor and other determinations. All spent sulphite liquor from the two sulphite mills -- and much additional water which aids in the dilution process -- is pumped through a submerged deep-water outfall which extends three thousand feet into Port Gardner Bay as shown on this Figure 29.

Both the desirability and success of this deep-water dispersion of wastes have been recognized by the Washington Pollution Control Commission as so clearly stated in their official Progress Report Number 29 in refernce to this pipeline, and I quote:

"Surface pollution by pulp mill effluents has been reduced to a minimum and a pollution barrier to migrating fish no longer exists in the Snohomish River estuary."

Figure 30 shows numerically how effectively it has accomplished its purpose. As shown on the bottom line, before installation, the average dissolved oxygen at the mouth of the Snohomish River during the period of low river run-off was two point four one parts per million. After the installation, it averaged six point eight parts per million, an improvement of two hundred and eighty-four percent. Further, the before and after figures on spent sulphite liquor concentrations at the mouth of the Snohomish River were respectively three hundred and eight parts per million and eighteen parts per million.

As is the goal in any good dispersion program, this system accomplishes low and highly uniform distribution of spent sulphite liquor in the surface waters of the Bay near Everett ranging from fifteen to twenty parts per million. Higher concentrations of the order of fifty to a hundred parts per million exist in the deeper waters, generally below fifty to a hundred feet, where the discharge undergoes actual dispersion. Along the immediate Everett City waterfront, indicated spent sulphite liquor concentrations approximate a hundred parts per million, primarily the result of chlorolignins associated with dilute wash waters rather than with digester liquors. As seen in this Figure -- as seen in that prior Figure, very little spent sulphite liquor is found within the Snohomish River itself, that latter figure that I showed you being the average of eighteen.

Dissolved oxygen values are normal in the Snohomish River in relation to factors as -- such factors as temperature and chlorinity. For the major part of Port Gardner Bay, a slight mean oxygen depression of from one-half to one parts per million has been found created by the industrial discharges. In 1960, for example, the mean surface dissolved oxygen for Port Gardner Bay was actually eight point seven parts per million, with the great majority of all individual determinations being in excess of seven parts per million. Along the Everett City waterfront, the dissolved oxygen is considerably lower, ranging from three to six parts per million, primarily influenced by the degree of adjacent deep water upwelling and summer temperatures for any given year. Deep waters are complicated by the natural low dissolved oxygens for any such area, already demonstrated in the Port Angeles section, but it is probable that an attributable depression does occur in the order of one part per million or even two parts per million around the immediate outfall. Dissolved oxygen in these deep waters adjacent to the outfall itself will generally range from three to six parts per million, much higher during winter, which as seen compared to the Strait of Juan de Fuca, are an expectable range of values.

Some sludge bed formation does exist in the Everett area, along with the waterfront dispersion and industrial zone, where the results of man's general use of these waters are clearly evident. We suggest, however, that the importance of such is entirely dependent upon any effects or lack of effects upon the fisheries and other life uses of the area.

Comprehensive biological studies of this area have been conducted by both the State and the Everett industries. In one of its major studies, the Department of Fisheries selected Skagit Bay, shown in Figure 31 -- Skagit Bay is in the uppermost portion of this slide. Skagit Bay was selected as the non-polluted control area for comparison with Port Gardner Bay, which is at the lower right-hand corner of this slide. These two areas are about twenty miles apart. The basic purpose of the study was to compare the food chain or biological production of the two areas.

Figure 32 shows significant results taken from this study. The two columns on the left show -- and by the way, I refresh your memory that this is a Department of Fisheries study -- the two columns on the left show that the number of species of copepods found was practically the same in the two areas, but the actual number of copepods was sixty-five percent greater in Port Gardner waters as shown by the two middle histograms. Other kinds of zooplankton are compared on the right. And in this case, you will again note that Port Gardner Bay was richer in food chain than Skagit.

The report also stated -- and now, I am quoting from the Department of Fisheries report on these two areas:

"Stomach analyses of young salmon from Port Gardner showed that nearly all were full and no food shortage was indicated."

In general, this study demonstrated that weather, and more directly, salinity and effective sunlight, was the controlling factor in populations in this area. Biological studies underway by industry have indicated similar results.

The Snohomish River itself was found to be the controlling factor in biological production in these waters.

Here again, as at Port Angeles, the larger biological forms, such as fish themselves, have been found by both the State agencies and industry to be present in all waters of the area, again apparently limited only by the natural hydrographic effect of the Snohomish River. The excellent salmon fishing is, for example, rather dramatically illustrated in the public records of the area.

Figure 33 is a photograph of the heavy fishing the last two years immediately off the docks and in the waste disposal area, while Figure 34 is an excellent example on the water of the success. On August 11, 1960, the Everett Daily Herald reported under the headlining, "Angling Assault Here Continues", as follows:

"While spectators watched from downtown office buildings, fishermen continue to reel in big salmon from the waters of Port Gardner Bay directly in front of Everett."

Continuing the quote: "King salmon, which have been virtually rubbing fins against the City's piers, were being taken at the rate of about one to the boat, as the harbor was dotted with anglers this morning."

In August of 1961, the Everett Daily Herald headlined, "Anglers Do Okay in Home Waters", and added, as you can see in the first line, "Phooey with Westport". Also in August of 1961, Fishing & Hunting News, a widely read sportsmen's newspaper in the Northwest, headlined one of its stories, as you see, "Everett Sees Best Fishing in Fifteen Years".

This demonstration that the fiber and fishing industry do co-exist healthfully in the Everett area will be completed with some rather convincing quotes of commercial fishermen. In the late forties, the gill-netters and tugboat operators were vieing over navigation rights in the Port Gardner area. It seems that the tugboats were encountering too many unlighted nets at night and so their operators wanted to close the area to gillnet fishing. In pleading the fishermen's case, Mr. David Rhea, on November 21, 1949, in the hearing conducted by the Corps of Engineers, testified:

"Testimony will also be introduced to show that the area involved in this hearing affords the best gillnetting area available to the industry in Puget Sound and that approximately ninety percent of the total pack produced by gillnetters is produced from this area. Testimony will also show that there are no other grounds available for gillnetters to move to, which would be equally productive of fish supplies and yet would not at least in equal degree, impede navigation" -- end of his quote.

But, on behalf of the fishing industry, Mr. Benito added: "Like our attorney says, the biggest part of our catch comes out of that restricted area -- Port Gardner Bay. And so far as he says, seventy-five to ninety percent, he means as compared to the whole area, which includes Port Susan and down into Possession Sound."

Because our wastes have been referenced by some to the fisheries resources, it is essential that certain facts about both wastes and fish be documented. We believe the conferees, particularly the Federal ones who are now entering this complex problem, will find this of benefit. The discussion will be divided into two sections: Salmonids and shellfish. To show overall trends in fisheries resources, we must refer to some areas outside of the precise area under study today, but we believe these references will be pertinent and helpful to the conferees.

Salmon landings in practically all areas of the Pacific Northwest -- whether they are developed or undeveloped --

have been in a general state of decline since the beginning of commercial use of this resource. In the past twenty years, the decline in commercial landings in the West Coast states has been forty percent, with forty-six percent in Oregon, eighty-four percent in Washington and thirty-six percent in Alaska. California, in contrast, has shown an increase of a hundred and fifty-four percent in a similar period. We believe that it can be demonstrated that the declines have causes not related to pulp and paper mill wastes.

Figure 35 shows the commercial salmon take from the twelve principal coastal streams in the State of Oregon. Even a quick glance at this record shows that the commercial fishing take since 1923 has steadily declined, which is a good measure of the salmon fisheries resources of the Pacific Northwest coastal streams. In commenting upon this decline, the Oregon Fish Commission had this to say, in part, in its conclusions:

"Apparently, at no time until recent years was a serious program developed or even considered for the conservation of the salmon runs. To date, with the possible exception of one or two instances, pollution has not been a serious factor in the decline of salmon runs."

Figure 36 shows the red salmon catch from the Karluk River, Alaska system, for the period 1882 to 1956. This river, which is on Kodiak Island, is one of the most famous and most studied salmon producers in the world. The catch chart is plotted on the basis of average catch within five-year periods. The commercial exploitation started in 1882, and as shown by the chart, quickly rose to a peak during the period of 1887-1891, of an average of two million seven hundred and seventy thousand red salmon per year. From that point on, with only two minor upward bumps in the curve, the system was in a steady state of decline. It reached a low during the last five years of only one hundred and eight thousand salmon per year in the catch. The average catch for the seventy-five year period as shown by the heavy line in the middle of the chart, was one million two hundred and eighty thousand salmon per year. Thus, the catch average for the last five years was less than ten percent of the average for the seventy-five year period and it was less than four percent of the peak five-year period.

Many people have addressed themselves to the cause or causes of decline of the Karluk and other Alaskan fisheries. Milo Moore, in 1956, had this to say about the tragic trends of the losses to our salmon industry which are occurring in most of Alaska's two thousand rivers and streams:

"Many reasons are given to explain these losses by those who are involved in management. Over-fishing is the most frequently stated cause."

Alaska -- no dams, no sports fishing to speak of, no irrigation, little commercial and industrial development, no nuclear reactors, no pollution to speak of -- until recently no pulp and paper mills -- yet a severe salmon decline. Here's another example of declines in the complete absence until recently, of pulp mills.

Coming closer to home now -- Figure 37 shows the salmon river landings -- excuse me, the Columbia River landings of Chinook salmon from 1866 to 1957, again plotted on the basis of five-year averages. It is apparent that salmon declines began long before the introduction of any significant industry. Pulp production along the Columbia was just beginning to grow in the late twenties, and in 1930, the pulp production was only about twelve percent of the current production levels. Actually, the runs on the Columbia have generally declined less than in other river systems of the Northwest despite the heavy industrial use of the river and the major hydro-electric projects on it.

Grays Harbor, as all of you know, is located on the coastal area and is north of Willapa Harbor. Figure 39 shows inside Chinook salmon landings, representing those fish caught in passage, for Willapa and Grays Harbor. The Willapa curve is the middle one; the Grays Harbor curve is the lower one, and we have also shown on this chart, a smooth curve for the Oregon coastal stream salmon takes which we showed previously. While the curve and data for the Grays Harbor area show only slight decline, more pronounced declines are shown for Willapa Harbor and the Oregon coastal streams -- and I add, the Willapa Harbor has no pulp mills and no industrialization, while the Grays Harbor area had one pulp mill constructed in 1927 and another constructed in 1957.

From the data available to us, it is impossible to draw meaningful landing charts for Puget Sound District alone for three reasons: First, reporting did not start until 1935; second, in 1935, commercial fishing was curtailed inside a line created by Initiative 77; and thirdly, landings include substantial quantities of sockeye and pink salmon of the Fraser and other Canadian river systems. Were it possible to chart Puget Sound landings, there is no reason to believe that fluctuation and decline patterns would not follow those so clearly evident in the non-industrialized areas.

One last word about the causes of salmon decline. Testifying before the U. S. Senate Committee on Interstate and Foreign Commerce, on November 27, 1957, Milo Moore, Director of the Washington State Department of Fisheries, gave three reasons for the decline:

"One is that the Japanese fishermen are intercepting American salmon at sea, west of the provisions abstention line established by the North Pacific Fisheries Commission.

Another indicates part of the loss may be credited to poor management of our fisheries resource due to over-fishing. A further reduction of the salmon runs results from an increase in the natural predators preying upon the spawn of the fish and causing returns in fewer numbers to the salmon streams."

Under the excellent management of the State Department of Game, the sport steelhead fishery has been developed from an annual catch of about twenty-three thousand in 1947-48 to nearly one hundred and seventy thousand in 1953-54. Annual catches of over a hundred and twenty-five thousand are common. But this growing fishery has also shown unexplained fluctuations. Because the pulp and paper industry is concerned with protecting this fishery in the streams in the vicinity of its operations, it caused to have prepared in 1960, a report on trends and fluctuations. Figure 40 shows the fluctuations from 1952 to 1959 for the State and for four regions of the State. Plotted as percent deviation from the mean, it is apparent that the pattern of variation is quite uniform for all areas indicating a cause of fluctuation that is coastwise. Generally, similar plots for individual streams, whether in industrialized or non-industrialized areas, show similar fluctuations. Thus, we conclude that our operations are not influencing this excellent fishery program.

There is a considerable body of scientific data which corroborates the above area and statistical demonstrations that pulp mill wastes in the concentrations existing in our areas of operation are not unreasonably and adversely affecting fisheries resources. Fisheries Research Bulletin No. 1 of the Washington State Department of Fisheries, on the basis of seven long-term bioassays, gives the susceptibility concentrations of three species of salmon to spent sulphite liquor as shown in Figure 41. These figures are, for the Chinook, about one thousand; for pink, over fifteen hundred parts per million of spent sulphite liquor, in ten percent concentrations of solids; and for silver salmon, about one thousand parts per million.

To determine biologically safe concentrations of spent sulphite liquor to important steps in the food chain, the Academy of Natural Sciences of Philadelphia, in 1957, conducted bioassays on three test organisms with the conclusions as shown in Figure 42. You will note that for silver salmon, they give the figure of ten ninety-six; for shrimp, seven thousand three hundred and twenty; and for diatoms -- it should be plural there, because two were tested -- fourteen hundred and sixty. Note how closely the Academy's conclusions for silver salmon agree with the findings of the Fisheries' study. And note also, if you will, please, the conclusion of the Academy, is that these are the biologically safe concentrations.

As shown above, the concentrations of spent sulphite liquor in the vicinity of mill operations are only a fraction, even close to our outfalls, of the one thousand parts per million as shown to be safe by the above two authorities.

The Academy of Natural Sciences also conducted bioassays on fingerling silver salmon, using whole-mill wastes from a kraft mill, which also has a de-inking operation. The results showed the biologically safe concentration to be twenty-four and three-tenths percent waste in the receiving water. With the diffusion facilities constructed by the kraft mills and with the great quantities of diluting water available, no such concentrations of wastes are encountered except possibly in the immediate vicinity of the outfalls of the kraft mills.

Now I'd like to address ourselves for a few minutes to oysters. From the representations of a few, one might conclude that the oyster industry in Washington is in a bad state of decline. Frequently, one might have gained the impression that the oyster industry suffered decline as the pulp industry grew. As with the pudding, it is literally true that the proof of the oyster is in the eating. And from the record, sixteen hundred -- one thousand six hundred percent more Washington oysters were produced in recent years in Washington than in 1930, the approximate time of the introduction of the Pacific oyster. This and other eye-opening facts are vividly depicted on Figure 43, which shows the oyster catch from 1880 to 1957 for four of the six major oyster-producing regions in the United States. These curves are plotted from the published statistics of the U. S. Fish and Wildlife Service.

The line at the bottom of the graph represents the catch in the Pacific Region. For all practical purposes, the curve representing the Pacific area is actually the curve for the State of Washington. Prior to 1929, all Washington production was in the native Olympia oyster and the imported Eastern oyster. The Eastern oyster never did comprise a very large portion of the total production and therefore, the curve up to 1929 literally represents Olympia oyster production. From this curve, it is certainly obvious that the Olympia oyster industry was suffering a decline prior to 1927 at the time the first pulp mill was constructed in the South Puget Sound oyster-growing area. In fact, Olympia production dropped from one million five hundred thousand pounds in 1902 to three hundred and fifty thousand pounds in 1918. This decline occurred in a period of absolutely no pulp mills in any commercial oystering area. We will portray much more vividly this decline in the Olympia oyster industry prior to the pulp mills in a later figure.

Just prior to the thirties, the Japanese or Pacific oyster was introduced to the Northwest to substitute for the Eastern oyster, which really never was successful in this area, and also it was introduced to take the place of the declining Olympia oyster. Just look at the growth in this area since that time, namely, 1930. In terms of pounds of meat, the industry has increased sixteen-fold -- sixteen hundred percent since 1930. The curves and the figures hardly indicate a declining industry. Now, let's compare this Pacific Region with others in the United States.

The Chesapeake Region, the largest producer in the United States is shown by the upper graph. In the last thirty years, production in this region has been between thirty and forty million pounds per year, which is less than half what it was during the twenties and less than one-third of what it was just after the turn of the century.

The Middle Atlantic Region has decreased steadily since 1880. In recent years in this region, production has been less than in the Pacific region.

The Gulf Region has not suffered the steady declines of other eastern regions. In the past decade, production in this region has been more stable, but only slightly greater than that of the Pacific region. To avoid confusion, the curves for the New England and South Atlantic regions have not been plotted. Had they, astounding declines would evident to the point that these two regions each now produce less than half of the oysters raised in the Pacific region.

What's the moral of these curves, remembering that they are plotted from the official statistics of the U. S. Fish & Wildlife Service? It's real simple. The Pacific region is the only one of six major producing regions in the United States, where the oyster industry has shown substantial increase in production since 1930. Hardly the declining industry sometimes portrayed.

Grays Harbor is a perfect example that the pulp industry and the oyster industry can coexist and prosper in health and harmony. Figure 44 shows pulp production between 1927, when Rayonier commenced operation at Hoquiam and between 1958. There were no oysters in the harbor in 1927. Four years later, in 1931, the first seed oysters were planted with the glowing prediction by the oyster scientists that this would be one of the most productive oyster regions in the State. They were right. In spite of the fluctuations characteristic of any agricultural industry, the oyster growth curve parallels that of the pulp industry, in the area where relatively high concentrations of pulp mill wastes are known to exist. What more practical demonstration could you have that pulp mill wastes are not harming either oysters or the food organisms upon which the oysters feed? Obviously, in the face of this record on Grays Harbor, oyster problems which might develop in that area, could have nothing but causes other than the pulp mill wastes.

The Olympia oyster industry of South Puget Sound has been the focal point of much controversy and dissension. Therefore, we would like to return to this area for a little more discussion. We have been told by the oyster growers that the decline of the Olympias started in 1927 with the construction of the Shelton Mill. Let's look at the record.

Figure 45 shows, by means of the graph, the actual production of Olympia oysters from 1897 to 1958, as reported by the Washington State Department of Fisheries. This graph itself suggests a rather steady decline from 1902, in spite of the fact that there were certain peaks and depressions in the production curve. The shaded bar on the left of the graph, computed by standard statistical methods, shows the decline in Olympia oyster production from 1902 to 1927. This average decline was taking place in spite of the fact that the oyster growers during the period were frantically building dikes and improving their beds in general, in order to offset the ravages of weather, predators and other elements of nature. The pulp mill commenced operation in 1927. The decline in the Olympia production from 1928 to 1959 is shown by the shaded area in the lower right-hand portion of the graph.

The slope or dip in the shaded areas represents the average decline during the respective two periods. It is astounding to note that the Olympia oyster industry of South Puget Sound declined almost twice as fast during the period prior to mill construction than following.

There is another striking contradiction in the oyster grower's allegations that his problems are caused by pulp mills. In the early days, the Olympia, or native oyster, existed in many bays in California, Oregon, Washington and British Columbia. In fact, I believe it is safe to say in practically all such -- all bays. Due to overharvesting, exploitation, economic and other causes, production of Olympias has ceased on a commercial scale in all areas except South Puget Sound. It is rather striking that none of these many other areas which continues to produce Olympias -- excuse me. It is rather striking that none of these many other areas continue to produce oysters while the area in the vicinity of a pulp mill does.

The Shelton Mill of Rayonier shut down completely on August 9, 1957. Statements and inferences have been made repeatedly that Olympias have come back and are thriving since the mill closure. Scientists and consulting biologists have studied Olympia conditions on over ninety percent of the commercial beds in South Puget Sound, both before the mill went down and then for a nineteen-month period following closure. The results of these exhaustive scientific studies were submitted by our Association to the Board of Scientific Consultants of Drs. Gunter & McKee, which studied the oyster question for the Washington Pollution Control Commission. These results are shown on Figure 46.

The light bars show Olympia oyster conditions in 1957 when the mill was operating. The dark bars show 1959, nineteen months after the pulp mill had ceased operation. All ages of oysters are compared in the bars on the left. In 1957, there were two hundred and fifty-nine oysters per square foot in the beds surveyed. In 1959, there were only forty-nine oysters per square foot or a drop in that period of eighty-one percent. It should be emphasized that the beds surveyed were those pointed out and designated by the oyster growers as being their best beds and that no harvesting or other activity had taken place on these beds which would reduce the number of oysters due to man's activities. The other three sets of bars simply show that there was a drop of ninety-six percent following mill closure in the spat or baby oysters on the beds; there was a drop of seventy percent in the juvenile oysters; and there was a drop of sixty-one percent in the commercial-age oysters. Therefore, the only conclusion which can be drawn from these data is that the decline of the Olympia industry, as portrayed in the previous Figure 45 is continuing unabated, in spite of the fact that the pulp mill has shut down.

I want to return to Figure 45. If you have very good eyesight and if you will look at the plotted record of production and by the red line, you will notice that there has been at the very lower portion -- Mr. Tollefson, all the way down to the right -- a slight upward trend in actual oysters landed since 1957, when the mill went down. This is what is being portrayed to you as the increase in production since that mill ceased operation. You will note that that slight rise doesn't compare to any of the other upward fluctuations during the period that the mill was running, and I would like to call to the attention of the conferees that any oysters that are being harvested at the present time and that represent any increase in catch were spawned and set and nurtured -- excuse me -- were spawned and set while the mill was operating.

Oysters feed on small microscopic plants and animals in the water. Generally, this is referred to as the food chain. Oyster growers have alleged that this chain is harmed or weakened by pulp mill wastes. They have claimed, without supporting scientific data, that there are many more and varied forms of food organisms in South Puget Sound since the mill at Shelton was closed. Exhaustive studies of the food organisms were made before and following mill closure. Over a period of many months, over one thousand fifty water samples at six representative stations were taken in the South Sound area. These data were also submitted and made available to the Board of Scientific Consultants to the Pollution Control Commission. The results are shown in Figure 47.

For three months during 1957, when the mill was running, there were on an average -- as shown by the upper blue bar, four hundred and two -- four hundred and two thousand seven hundred food organisms in each three and a half liter sample of water. For the same period in 1958, some eight months after the mill closure, there were only two hundred and seventy-four thousand seven hundred organisms per water sample. Actually then, there were more food organisms when the mill was operating. This is even more significant when it is recalled that water temperatures were more favorable for the growth of the smaller organisms in 1958 than in 1957.

Another method of indicating the food organisms available in a body of water is to place the common microscopic slide in the water, leaving it for a period of time for organisms to grow on. Since all plant and animal organisms will not grow upon the slide, this is not as representative a measure as that just described, namely, taking a sample of water and identifying all of the organisms in it. Nevertheless, it is an indication. In 1957, as shown in the next to the last line on this chart, when the pulp mill was running, there was an average of eleven hundred and forty organisms per unit of slide. In 1958, there were thirteen hundred and seven organisms per unit of slide or slightly more as measured by this technique.

Two conclusions can be drawn from this oyster food-organism research: (1) There was no biological improvement in South Puget Sound following the closure of the mill; and (2) if there were any trends at all that could be discerned from the data, that trend would be one of decrease in food organisms rather than increase following the closure of the Shelton mill.

Late in 1958, the State and the Pollution Control Commission retained an outside board of scientific consultants. They retained Dr. Gordon Gunter, Consulting Biologist and Director of the Gulf Coast Marine Laboratories of Ocean Springs, Mississippi, and Dr. J. E. McKee, Consulting and Sanitary Engineer and Professor of Engineering in Environmental Health, at the California Institute of Technology in Pasadena; and these consultants were retained to review all available data and research and to recommend water quality standards -- and now I'm quoting -- "to protect from any probable adverse and unreasonable effects of sulphite waste liquor in the estuarial environment." Their report, printed by the Commission in 1960, recommended as safe interim standards of ten percent spent sulphite liquor, in terms of parts per million over the commercial oyster beds the values shown in Figure 48.

You will notice in the third column from the left, the Gunter and McKee recommendations for safe standards over the oyster beds. On the Olympia beds, ten in the summer, twenty parts per million in the winter. For the Pacific oyster areas, forty in the summer, eighty in the winter. You will note in the last three columns on the right, we are comparing present average conditions in the South Sound, in the North Sound and in the Grays Harbor area. For the South Sound, you will note that the average concentrations are less than four parts per million. In North Sound commercial oystering areas, less than two parts per million. In the Grays Harbor area, as we have previously told you, higher concentrations, but less than ten parts per million in the summer and less than thirty in the winter.

We believe the Gunter-McKee recommendations to be ultra-conservative -- that is, on the low side numerically in order to be on the safe side for the oysters. Bear in mind, they were to set, according to the Commission, standards to protect the oysters from any probable adverse and unreasonable effects. Thus, on the basis of the Gunter-McKee report, it is apparent that sulphite waste liquor is not harming any oysters or their food; that there is a tremendous factor of safety between present waste concentrations and the recommended safe standards, and lastly, that the State now has the data for setting reasonable control standards and bringing to an end, a long-standing problem.

When the Gunter-McKee report was under consideration in 1960, the Pollution Control Commission requested that three biologists from Fisheries -- that is, the Washington State Department of Fisheries and three from industry, sit with a representative of the Commission to delineate precisely the areas of agreement, the areas of disagreement, and the areas where there was no opinion on key biological questions. After fifteen and one-half hours of continuous session, the six biologists issued and signed -- and I am quoting now, the document -- "Statements of the Biologists Representing the Pulp Industry and the Department of Fisheries in Respect to the Gunter-McKee Report as Requested by the Pollution Control Commission on July 21, 1960." But their document was dated 4:30 A.M., July 23, 1960. Because of the extreme importance of this statement, it -- of their statement, it is made a part of this statement as Exhibit "A". Some of the points that they made were:

1. "While neither the pulp industry nor the Fisheries Department is totally in accord with the Gunter-McKee

recommended values, there is agreement to the general realm of the proposed interim standards."

They also agreed, Number 2 -- "Industry states that they have data which demonstrates that there has been no major changes in the flora and fauna of Southern Puget Sound since the closure of the Shelton Mill. The present status of analysis of the Department of Fisheries data on variations in relative abundance of flora and fauna associated with oysters in Southern Puget Sound is such that no statement can be made by them at this time."

And continuing the quote from that agreement from the biologists, they said, "In 1958" -- after the mill was down -- "Olympia spat survival was very poor."

On this latter point, about spat survival, it is important to note that the Olympia spat survival failure occurred after the Shelton Pulp Mill had been closed for about one year. In correspondence from the Department of Fisheries in 1959, the Director said about Olympia oysters and I am now quoting:

"With the exception of 1958, adequate spat survival has been the general rule in the industry; however, in 1958, excessive young spat losses of young spat due to flatworm predation has severely curtailed the entire 1958 set."

There had been very successful sets and survival in years when the mill was operating, such as in 1951 and in

1952.

One example will illustrate how dangerous it is to rely upon general statements regarding fisheries production without carefully considering economic factors and conditions. Declining commercial crab landings in North Puget Sound have been used to allege pollution influences. The upper third of Figure 49 shows that there has been a decline in Puget Sound waters since 1935. But when the landings are grouped and portrayed by industrial and non-industrial areas, as shown by the middle third of the figure, it will be seen that both types of areas show declines.

Now let's bring in the economic factors and fishing techniques. Figure 50 shows landings of Dungeness crabs since the early twenties in Oregon and Washington. Washington is the solid line. Both have shown a tremendous increase since 1932. In recent years, the open-ocean fleet of crabbers has so improved its gear that they now use over one thousand pots per boat, compared to one hundred pots in years past, and the size of the boat has doubled or even tripled. This has resulted in the tremendous increase in crab catches as evidenced in the data. Undoubtedly, a study into the relationship of this industry -- of this intensity of the fishery and the gear improvement and the establishment of cost-price ratios would show that the inside fishery, such as Puget Sound, just cannot compete economically. The study would show that it is no longer economically feasible to fish with the individually operated gear on a casual basis as has been done or is being done, either on a full-time or part-time basis in the areas such as North Sound.

May we have the lights, please, Preston? Many of the statistical, economic and scientific facts referred to above were taken from Tollefson's summary of fisheries statistics; were taken also from a mimeographed document which draws some conclusions and interpretations from Tollefson's statistics and from a statement by our Association to the Pollution Control Commission on February 4, 1958, concerning water quality standards. Copies of these are being made available to the conferees for their reference.

And now I'd like to talk briefly about the progress that has been made in the abatement of pollution by our industry.

In 1956, the Pollution Control Commission issued permits, temporary or permanent, to the pulp and paper mills. The basic requirements embodied therein were as follows:

1. There was a limitation on the discharge of suspended combustible solids, namely, fiberous material.

Secondly, there was a limitation on the discharge of total solids, particularly from the kraft mills.

Thirdly -- disposal, other than to waterways, of the rejects from screens, deknotters and so forth.

Fourthly they required installation of automatic waste sampling devices in collecting and outfall sewers.

Fifthly, they required chemical analyses of waste and the reporting thereon.

Sixth, they required the disposal of human sewage, either through separate plant facilities or through municipal facilities.

Seventh, they required the construction of submerged outfalls to achieve adequate dilution; and

Eighth, they required the submittal of plans for recovery, treatment or utilization of spent sulphite liquor solids.

It is very important to note that the limitations on discharges of solids were based on Rule 04.220 of the Commission and its Attachment Number 11, titled "Requirements for Permanent Permits for Pulp and Paper Industry in the State of Washington". For all practical purposes, all of the 1956 permit requirements have been met with the exception of the one requiring recovery of the spent sulphite liquors solids. The sulphite mills have not been able to comply with this requirement economically but more importantly, they have not felt that such a requirement was necessary as the receiving waters surrounding such operations as demonstrated above have not been unreasonably or adversely affected by the wastes.

A list of the water pollution abatement and control facilities constructed by the mills since 1947 would be almost endless. Every two years, our Association polls its members as to the facilities constructed during the period, their cost, and what they accomplish. A summary and examples of what fiber save-alls, screening systems, recovery systems, by-products plants, regulating lagoons, outfalls and diffusers, sewage treatment plants, automatic metering and sampling devices, and other facilities have been -- as examples and other facilities have been constructed is contained in a paper, "Fish-N-Pulp", which the industry presented to the paper makers and pulp workers unions in 1959. And we are also filing a copy of that document with the conferees today.

(Pamphlet referred to received by the Conferees and included in Appendices of ORIGINAL RECORD ONLY under Section "For Official File of Conferees" and may be referred to in such official file as Appendix "A".)

Since 1947, the Washington mills have spent over thirty million dollars in facilities which directly and indirectly protect the waters of the State. The efficacy of these facilities is regularly monitored, not only by measuring and testing all mill wastes before discharge, but also, and more importantly, through programs for testing the receiving waters. In recent years, the equivalent of over forty full-time engineers, chemists and technicians have been assigned to this monitoring. In addition, there have been vast special biological and monitoring programs in Bellingham, Port Angeles, Everett and on the Snohomish River, and on the Columbia River and in other areas. The recent electronic machine analysis of the Lower Columbia River data, conducted by the two State agencies and our Association, is believed to be the first of its kind in the Nation; and it will also serve as a useful guide to other Washington areas.

Research programs of individual companies and industry associations on wastes, waters, processes and products would make in themselves -- in contrast to what you heard yesterday -- a story of the effort by an industry to solve its remaining problems. And I do not intend to dignify the statement as made of yesterday that each mill is spending two thousand dollars per year for research and say, "That's the story." That is not even, ladies and gentlemen, a half truth. It would be hard to get the fraction of the truth that that statement was intended to portray. I might also add that we feel that the University of Washington, in spite of contributing nothing to the pollution abatement program as was indicated yesterday, has contributed a great deal; and also, we did not spend six hundred thousand, we have spent eight hundred thousand at that research center alone.

The last Progress Report of the Commission said about our industry:

"....the pollution control programs of the pulp and paper industry have continued at an accelerated pace. Numerous physical corrections have been accomplished and significant advancements are being made to solve the technical problems involved in treating and the utilization of pulping wastes."

Now I'd like to talk about the nature of delays, if any. The pulp and paper industry sincerely believes that pollution control has not been and is not being delayed.

On May 23, 1957, the entire pulp and paper industry of Washington asked the Commission to define what properties and qualities of water in the vicinity of our operations would constitute pollution, which definition is required by law. Only with such a definition would we and the public know if conditions were safe and satisfactory. We offered to monitor receiving waters, at our expense but under State supervision, to measure compliance with such water standards. In the same letter, we asked the Commission to establish procedures for investigating alleged fish kills if they occurred in the vicinity of our operations. Fish kills, ladies and gentlemen, are serious, and if we were responsible, we wanted to know conclusively. Equally important though, if not guilty, we felt that the public should know this fact too. This letter which I refer to, our document of May 23, 1957, is made a part of this statement as Exhibit "B".

On the occasion of the above letter, in the statement of our Association to the Commission on February 4, 1958 and on numerous other occasions, we have advocated the retention of outside specialists and consultants to aid the State in defining standards, undue pollution and what qualities and properties of water shall indicate a polluted condition. Because these are urgently needed, we have offered to aid in sponsoring these undertakings. As far as our industry is concerned, the lack of these definitions is the principal cause of delay where any pollution exists. We do not think there is any question about our industry's response to the Commission's requirements when there has been a demonstrable need therefor.

In addition to delays in obtaining needed data, there appears to be unnecessary delays in using data and authorities already available. The Gunter-McKee report previously referenced is available now for application to oystering areas. Fisheries Research Bulletin Number 1, also previously referenced, is available now to areas -- to apply to areas supporting salmon fisheries.

Some of the companies have been granted administrative hearings on permits recently issued by the Commission. This is not a delay. The Water Pollution Control Act and the Administrative Procedures Act both provide for an orderly, non-emotional, but quite legal process for reconciling honest differences of opinions. The Commission apparently anticipated the use of the hearing process, calling attention to the administrative remedies available if any of the companies felt that permit conditions were onerous. Some delays are being experienced in the hearings, primarily because of the unavailability of certain technical data upon which the State purported to base the permit conditions.

I'd like to make some recommendations now to the conferees: For rational, equitable and timely control of water pollution and water quality, we would like to recommend the following steps which we believe are completely compatible with the Washington Pollution Control Act:

1. By areas, enunciate the various beneficial water uses to be protected, taking into account economic factors and the principles of zoning.

2. Using valid scientific data and practical field demonstrations, adopt water quality standards or criteria which permit and protect the various uses of water. Equitably done, this will define "undue pollution".

3. Establish monitoring to measure compliance with the water quality standards and criteria.

4. Conduct research and studies on areas of void or uncertainty, amending criteria or standards as dictated by new scientific findings and changing conditions of water use.

We do not believe pollution control should be based on demands for use of equipment and structures just because they are known and available. Because a method might work and be reasonable in one area does not mean that it should be blanketed arbitrarily on an entire industry or state without regard to environmental needs or area economics. It is like asking for a one hundred and fifty dollar air-pollution-control device on all Washington autos just because they are needed and reasonable on autos in Southern California. Believing that this approach is not to the welfare of our State, we sincerely hope that it can be avoided.

In closing, we must express a hope in relation to participation in this State's affairs by the U. S. Department of Health, Education and Welfare. When this possibility was first discussed, we frankly felt that the technical resources and professional objectivity which the Federal Government could bring to this problem could contribute constructively to solving our State's dilemma. Quite frankly, however, from what we have read in recent newspapers, we question whether or not this can be so. When an official of the Federal Government states, after a ninety-minute airplane flight, that "we saw clear evidence of water pollution from the operation of several pulp mills," he apparently has an insight or a degree of perception unavailable to most of us. Such prejudging of a highly complicated and technical subject by the Federal Government can render a real disservice to the people of Washington. It can thwart the rational and reasonable solution to a matter that is vital to the welfare of this State's people.

Further prejudging of this matter was indicated by the apparent bias indicated in yesterday's session. We would remind the Federal participants that the public agency for which they speak is morally responsible to represent equitably and fairly the interests of all the people and their activities and we submit this includes us. Until such time as all facts are unfolded and weighed deliberately and impassionately, the Federal Government has no choice other than to treat all parties with the same degree of objectivity. We sincerely hope that all subsequent participation by the Federal Government will be more thorough and deliberate and will be based upon the best scientific data available to all parties concerned.

Now, we're going to be constructive: To assist the Federal Government in this regard, we as an industry would like to invite the Assistant Secretary and -- I'm saying we're going to make a constructive comment and suggestion to you. We would like to invite the Assistant Secretary and his associates to visit immediately and inspect minutely our operations -- from the land and on and in the water. On behalf of our mills, our Association will arrange for such an adequate inspection to start at the close of this session of the conference, if you will avail yourselves of our invitation.

In this way, we are confident that the best interests of all the people in this State will be most equitably and satisfactorily served. This is our goal and we will work with all appropriate State and Federal agencies to achieve it.

Thank you.

(Exhibits "A" and "B" herewith copied into the record as follows:)

EXHIBIT "A"

STATEMENTS OF THE BIOLOGISTS REPRESENTING THE PULP INDUSTRY AND THE DEPARTMENT OF FISHERIES IN RESPECT TO THE GUNTER-MCKEE REPORT AS REQUESTED BY THE POLLUTION CONTROL COMMISSION ON JULY 21, 1960.

1. As measured by the PBI test presently in use by the Fisheries Department, the background value generally does not exceed 3 ppm except in some isolated instances or areas. Isolated high values without supporting evidence or correlating data should be interpreted with caution.
2. In regards to PBI values determined by the Fisheries method of analysis in North Puget Sound and South Puget Sound, there is agreement in regards to Fisheries data, and also agreement in regards to pulp mill data in view of the brief examination.

   There is agreement in regards to PBI values in the channel areas of Grays Harbor. No comparable data is available for North and South Bays in Grays Harbor.

3. The techniques used in the determination of D.O., B.O.D., salinity, alkalinity, and pH are standard oceanographic methods, in use by all concerned.

4. The present Fisheries method of measuring condition factor is acceptable by all concerned, and the Condition Factor data as presented by the Fisheries Department -- all species all areas -- are acceptable within the limitations of the method.

5. There is agreement on Pacific spat fall records and survival as to where and when in recent years. It is also agreed that spat fall was favored in 1958 by unusually warm water temperatures.

6. There is agreement on Olympia oyster spat fall data as presented in Fisheries Bulletin No. 5. There is agreement on spat survival for all years, where comparable data exist, except 1957. The differences for 1957 are slight and may be due to differences in sampling, methodology, etc. It was further agreed that in 1958, Olympia spat survival was very poor.

7. There is agreement that in North Puget Sound and Grays Harbor adult Pacific mortalities are higher than in South Puget Sound and Willapa Harbor; but an area of disagreement exists as to the interpretation of these

data.

8. There is agreement that Olympia live box annual mortalities in southern Puget Sound range from 15 to 50% for the period 1956-1959. The average Fisheries value is 27%; the average industry value is 30%. The Fisheries data is based on floating live boxes; the industry's data based on ground live boxes.

9. There is agreement in regards to adult Olympia oyster mortalities as measured by "box" counts in 1957 and 1959 where sampling was conducted in identical areas.

10. While the Department of Fisheries agrees in principal with the use of square-foot sampling used by the pulp industry as a measure of populations, they have no data for the period 1956-1959 from which comparisons can be made.

11. There is agreement that Department of Fisheries production statistics on oysters in Washington State are correct.

12. There is agreement on Olympia oyster growth rates during the period 1957-59 where comparable data exist.

13. The Department of Fisheries has no data relative to the acreages under production for Olympia oysters.

14. There is agreement that in certain areas of Southern Puget Sound, silting problems currently exist.

15. Industry states that they have data which demonstrate that there have been no major changes in the flora and

fauna of Southern Puget Sound since the closure of the Shelton mill. The present status of analysis of the Department of Fisheries data on variations in relative abundance of flora and fauna associated with oysters in southern Puget Sound is such that no statement can be made by them at this time.

16. There is agreement that salinity as such is not a factor in oyster mortality. It is further agreed that material fluctuations in salinity can adversely affect condition factor.

17. It is agreed that the nutrient salt-oyster condition relationship needs further research.

18. There is agreement that except for special localized situations, predators are not a major problem to the oyster industries.

LABORATORY

19. Olympia Oyster Larvae - the Department of Fisheries finds the critical level of fresh ammonia base hot-blown SWL on Olympia larvae in the laboratory lies between 7 and 15 ppm. Effects not demonstrated as being adverse have been observed at concentrations below 7 ppm. Industry finds an adverse effect occurs between 17 and 55 ppm using the same type of liquor.

20. Pacific Oyster Larvae - The Department of Fisheries finds the critical level of fresh ammonia base hot-blown SWL

on Pacific larvae in the laboratory lies between 8 and 17 ppm. Industry finds generally the same results except at times effects were not found at 17 ppm but were consistently found at 20 ppm.

21. Olympia Oyster Adults - The Department of Fisheries finds a definite effect on mortality at concentrations of fresh ammonia-base hot blown SWL between 8 and 16 ppm. Industry finds definite effect on mortality at concentrations between 55 and 170 ppm using the same type of liquor.

22. Pacific Oyster Adults - In long term bio-assay procedures using fresh ammonia base hot-blown SWL, the Department of Fisheries finds no significant effect on mortality in concentrations up to and including 128 ppm; industry up to and including 170 ppm.

23. The Department of Fisheries states that a need exists for more bio-assay on Pacific oyster growth and fatness. Industry states that data is already in existence showing no adverse effect on condition factor of Pacific oysters up to concentrations in the order of 100 ppm.

24. Based on limited data, the Department of Fisheries finds little, if any, difference in toxicity between hot-blown and cold-drawn liquor. Industry finds decidedly lesser deleterious effects in hot-blown SSL than in cold-drawn SSL.

25. There is agreement that with stabilization of SSL in sea

water there is a decrease in toxicity.

26. There is general agreement in the principles set forth in the Gunter-McKee report that lower values are required for the Olympia oyster (O. lurida) and for areas of reproduction of both Olympia and Pacific (C. gigas) oysters than are required for adult Pacific oysters. While neither the pulp industry nor the Fisheries Department is totally in accord with the Gunter-McKee recommended values, there is agreement to the general realm of the proposed interim standards. However, the Fisheries Department believes they provide no safety factor. Both the pulp industry and the Fisheries Department definitely recommend further research to establish final values.

Convened at 1:00 P.M., July 22, 1960

Adjourned at 4:30 A.M., July 23, 1960

Recorded by D. R. Peterson, Washington Pollution Control Commission

Signed by: Jerome E. Stein, Biologist, Rayonier Incorporated
John G. Denison, Biologist, Rayonier Incorporated
Roger Tollefson, Consulting Biologist for NWPPA
Charles E. Woelke, Biologist, Washington State Department of Fisheries
Ronald E. Westley, Biologist, Washington State Department of Fisheries
Gilbert A. Holland, Biologist, Washington State

Department of Fisheries

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EXHIBIT "B"

Executive Secretary: Vinton W. Bacon

NORTHWEST PULP AND PAPER ASSOCIATION

Room 1620 Washington Building
Tacoma, Wn. - Phone FUlton 4523

COPY

May 23, 1957

Mr. Arthur Garton, Acting Chairman
Washington Pollution Control Commission
224 Old Capitol Building
Olympia, Washington

Dear Mr. Garton:

During our meeting of last Wednesday (May 15, 1957), we discussed the following possibilities in connection with the water pollution control program as they relate to the Northwest Pulp and Paper Association:

1. Initiation of a sampling and testing program by industry (a monitoring program) of receiving waters to demonstrate whether or not pollution exists according to the Commission's standards.
2. Development of procedures for reporting and investigating alleged fish kills.
3. Blanket extension of temporary permits, except where individual mills desire to apply for permanent permits.

You suggested that I elaborate on and record some of the points in writing. I am pleased to do this. The subjects are discussed in the same order that they are listed above.

Monitoring Program:

It is the opinion of the pulp and paper industry that tremendous progress has been made in the abatement and control of water pollution since the enactment in 1945 of the present control Act. During this period, under the general guidance of the Commission, considerable sums of money have been spent for construction and operation of deep-water diffuser lines, reject refiner and utilization machinery, savealls, holding lagoons, waste liquor recovery units, hydraulic barker effluent screens, waste liquor storage tanks for road-binder programs, sanitary sewers and treatment works, automatic sampling and measuring devices, and receiving-water surveys. Furthermore, changes have been made in in-plant processes which result in reduction, elimination, or utilization of waste material which heretofore had been discharged to receiving waters. During your recent meetings with some of the mills, we think you have probably seen convincing evidence of this. As you meet with other mills and companies (which you have indicated is your plan), we believe that this fact will simply be corroborated.

To learn to what extent its efforts have been successful, the industry desires to work with you on a program which will demonstrate and prove whether pollution exists or not. To this end, I am authorized by the Trustees of our Association to discuss the possibilities of an industry sponsored and conducted sampling and testing program in receiving waters (such program under terms specified and checked by the Pollution Control Commission) provided that the conditions to be maintained in the receiving waters have been so defined as to make a monitoring program meaningful. (If there is no definition of qualities and properties of waters which indicate a polluted condition, it appears to us that it would be like administering a "no speeding law" without a speed limit, or akin to administering a building law without a building code specifying structural and other details.) In addition to offering to consider sponsoring and conducting a monitoring program, there are two additional areas in which we desire to offer co-operation.

The first is on the problem of setting water quality criteria. After determining the beneficial uses which are to be protected in receiving waters of different areas (which process often involves local planning commissions), the goal is to set water quality standards which will protect these uses with a reasonable factor of safety, but which will not impose unwarranted regulations upon industrial or municipal dischargers. The setting of standards under these circumstances is basically a matter of applying all available scientific data to different local situations. Biologists, biochemists, chemists, chemical engineers, sanitary engineers, and others within the industry have done considerable research work on waste concentrations in receiving waters and on water quality standards, particularly on spent sulphite liquor. Some of the research data collected have not been published or generally made available. We feel confident that the individual companies would be pleased to have their technical personnel work either directly with the Commission or through a task or advisory committee during the Commission's deliberations on water quality criteria, and to discuss the results of any industry research pertinent thereto.

The second one is on the possibility of paralleling any monitoring program with some strictly biological investigations, which would aid in demonstrating the health of the biota. At the present time, specifications for a monitoring program might include: location of sampling stations, frequency of samples, types of tests, and methods of reporting. The types of tests to be conducted would be governed by "what qualities and properties of water shall indicate a polluted condition .." These tests would probably include: temperature, pH, dissolved oxygen, spent sulphite liquor, etc. But, at the present time, data are lacking on biological indices of water quality which are applicable to the area. Knowing that such data will become more essential as multiple uses of waters become more complex and intense, we believe that many of our members would be willing - even anxious - to include biological work on such subjects as bottom conditions, food chains, diatoms and plankton counts, bioassays, etc.

In closing this section, we would like to summarize what appears to us to be the advantages of a monitoring program as suggested above when referenced to quality standards of the receiving waters.

1. Most important, it would provide proof to the people of the state, to water users, and to waste dischargers, whether or not pollution exists or is threatened.
2. It would be within the spirit and letter of the pollution control Act, which provides in part in Section 13, "The Commission shall determine what qualities and properties of water shall indicate a polluted condition of such waters of the state . . ."
3. It would stimulate orderly industrial and urban growth because safe waste assimilative capacity would be available if monitored conditions were well within the defined receiving water conditions.
4. It would aid the state financially, as the pulp and paper industry would be sharing the cost of the burden of proof.
5. It recognizes the concept of multiple uses of water.

Procedure for Investigation of Fish Kills:

We believe that the pulp and paper mills are frequently blamed for fish kills in cases where there is only the remotest, if any, possibility that mills are involved and where the investigations are not adequate to establish the real cause of the kill. Therefore, in order to provide a means to determine accurately the cause of any alleged fish kills in the vicinity of waste discharges from pulp and paper mills, we respectively recommend for your consideration a procedure somewhat as follows for reporting and investigating such alleged kills:

1. Upon receipt of a report of a fish kill which might involve waste discharges from a pulp and paper mill, the Pollution Control Commission will immediately notify the Northwest Pulp and Paper Association and other State and local agencies concerned.
2. The Northwest Pulp and Paper Association will immediately forward the details of the report to the mill which might be involved.
3. The mill representative will immediately join all others concerned in inspecting the water and surrounding areas, in collecting specimens of any dead fish, in collecting water samples, in photographing the area, and in taking any other data or observations essential to determining the cause of the alleged kill. (To expedite this area survey, the mill representative

will aid in obtaining a boat and in providing other material assistance.)

4. Following the area survey and any necessary laboratory work, a report on the facts obtained and conclusions drawn therefrom should be issued.

The problem of investigating fish kills has been vexing elsewhere, and you might be interested in the procedures developed by the Ohio River Valley Water Sanitation Commission which are described in the attached publication titled "Procedures for Investigation of Fish-Kills." We believe that a similar, simple procedure would be helpful in this area.

Blanket Extension of Temporary Permits:

Most of the temporary permits expire on June 10, 1957. Among our members there is a total of 27 temporary permits: 13 on sulphite pulp mills, 4 on sulphate pulp mills, 3 on groundwood pulp mills, 1 on semi-chemical pulp mills, and 6 on paper mills.

I was directed by the Trustees at their meeting on May 7 to inquire of the Commission if it might be in the best interests of all to grant a blanket extension of all temporary permits, except for those mills which express a desire to seek a permanent permit. Some of the reasons for making this request are:

1. Steady and very significant progress has been made

by all of the mills in complying with the terms of the permits. We believe you are well aware of this through the personal contacts of your staff, through the monthly reports of the mills, through the special written reports which have been submitted from time to time, and lastly, through the meetings which a few of the mills have been privileged to have with you recently.

2. Through the press, we note that Governor Rosellini stated his plans to re-examine government regulations as they relate to the state development program and to guard against unwarranted regulations which might impair business growth. (We most sincerely believe that a few of the terms of the present permits are not related to Section 13 of the Pollution Control Act and, therefore, they should be deliberately scrutinized.)
3. We are asking for the opportunity to participate in a monitoring program which when referenced to receiving water standards will demonstrate whether or not pollution exists in the vicinity of our waste discharges.

During your consideration of this subject, we would like to reassure you on two points. First, at this time we are not suggesting any changes in the permits. Later on, where receiving-water monitoring demonstrates no pollution, we naturally would like to have the permits re-examined. Second, the offers of monitoring, biological studies, and assistance in investigating alleged fish kills are not conditioned upon blanket extension of the temporary permits. These offers stand by themselves. But, in the light of the progress made by the mills on the terms of the permits, we do think simple extension is a logical procedure, and we would appreciate an early word from you as to your thoughts on this subject.

I have been asked by the Trustees to express their deep gratitude to the Commission and staff for the opportunities recently afforded to sit down and discuss what has been done in controlling and preventing pollution and what is planned for the future. They are anxious to co-operate in every way possible with the Commission.

Please do not hesitate to call upon us if you desire discussion of any of the details of this letter.

Very truly yours,

NORTHWEST PULP AND PAPER ASSOCIATION

By Vinton W. Bacon, Executive
Secretary

VWB:lg

Enc. (1)

CHAIRMAN STEIN: Are there any questions or comments?

MR. QUIGLEY: Mr. Bacon, I would like to take you back to page 6 of your rather excellent and very thorough and detailed statement.

MR. BACON: Yes, sir. Mine is out of order some place. I'll just --- (interrupted)

MR. QUIGLEY: Well, I think I'd like to take you back to yours because the question that is bothering me is the fact that your written statement and your oral statement were not the same.

MR. BACON: I'm on page 6 now.

MR. QUIGLEY: Now, would you repeat for my information, the statement at the very top of page 6, as you read it?

MR. BACON: I read -- the word that you are referring to is "Governmental agencies" and then I left out "only the high points of these data will be summarized". I had already previously made that point.

MR. QUIGLEY: And you did include the other statement?

MR. BACON: Yes, sir. "The conferees are urged to review carefully and critically all of the original data presented in this paper and referred to to better evaluate the conditions," yes, sir.

MR. QUIGLEY: Now, how does that tie in with your answer or your response to Mr. Stein's question?

MR. BACON: We are referring here, Mr. Quigley, to the original data as presented in this presentation and the original data available in the Governmental agencies. If you will go back to page 5, you will see we said, "We draw upon not only specific private references, but also upon all known and available public records of Governmental agencies." Then I went on to say, "The conferees are urged to review carefully and critically all the original data presented and referred to to better evaluate the conditions." I think that's consistent with the statement that I made to Mr. Stein.

CHAIRMAN STEIN: Well, I'm not sure --- (interrupted)

MR. QUIGLEY: In your original -- in your prepared statement, you say what you are about to say and then you proceed to say it for the next forty-four pages -- what you are about to say is only going to hit the highlights of this data. You say, "Only the highlights of these data will be summarized."

MR. BACON: Referring to the written manuscript, that is exactly what it says, yes, sir. And that's what we have summarized and those are the data we have presented.

MR. QUIGLEY: Do you propose -- now, I want to make sure I understand -- you propose now to make available to us for careful and critical review, all of the original data presented?

MR. BACON: No, sir, I didn't say that. In fact, in contrast to that, I said to Mr. Stein the data we're presenting in here are the data that are being made available and we're suggesting that you study these data carefully and that you go back to the original data on all records that are available to you.

CHAIRMAN STEIN: Mr. Bacon, may I say this and you know at the stage of a conference proceeding, we obviously don't use the tools of cross-examination, of qualification of anything.

MR. BACON: That's right.

CHAIRMAN STEIN: Or any of that. It seems to us that the best way we can arrive at a judgment on this is have a full disclosure of data among our experts. Now, right now, involving another part of the country and another industry, an old associate of yours, Harvey Ludwig of California, was retained by an industry, asked about our data; we invited him to Cincinnati, the Sanitary Engineering Center, and told him all the data would be available to him. I know of no other way of doing this at the conference stage. And I might say this, Mr. Bacon, whether we get the data from -- or the data our experts feel they need from the industry, I want to assure you, the State and anyone else, that this won't affect our action. We are a public agency, doing the public's business and operating in a public manner. All our data -- worksheets and otherwise in this field are available to all.

MR. BACON: Thank you.

MR. QUIGLEY: All right. Let's go back to the original point I raised. I'm curious to know for my own information and my own clear thinking on this, whether at the same time Mr. Bacon is urging us to review carefully and critically all of the original data presented, he is ready to indicate to the conferees whether he is willing to make all of that available that he has available to us?

MR. BACON: I think I have made that clear, Mr. Quigley, that we're presenting here the findings from data and these are the data that we're presenting to you at the same time. I cannot speak for the individual companies that have made these studies. These have been compiled on behalf of the Association. These data, we believe, are completely representative and we're presenting them in that spirit today. Many of our studies, I think among the individual companies and among the groups are continuing into a further state of refinement. I think as you get into this in your study, you're going to find the same thing to be the case. Maybe at some future date, they will be brought to a state of completion where they can be made, in their entirety, available to you. But today, we're presenting what we believe are the representations of the conditions in these areas on physical, chemical and biological conditions.

I might add that one of the great drawbacks and one of the great delaying elements in the hearings that we're having and probably contributes to what you are asking about here is the fact that we, as an industry, have not yet obtained, and have had some difficulty in obtaining the original data upon which the State purported to draw upon in casting or drafting the present permits, and until those are made to us -- made available to us to review -- and this of course is much the purpose of your hearing today -- we want to continue our study.

CHAIRMAN STEIN: Let me make this point so it's perfectly clear and I think I understand it, and I listened to the report -- this report --- (interrupted)

MR. BACON: Thank you, sir.

CHAIRMAN STEIN: --- and I think it's a very excellent one and I have heard at least portions of this before. This isn't the first time. But just judging this, if we were at a more formal stage, I don't think that necessarily, we would accept everything in here without further probing as the night follows the day. Now, obviously, as I pointed out, this is not, at this stage -- and we would hope that we wouldn't get to the stage -- where to get the basis for these statements, you would have to use an adversary or cross-examination technique. We would hope that as much as possible, we could have an exchange of data among our experts so we can come up with an evaluation and see if the conclusions follow.

MR. BACON: Mr. Stein, I'd like to comment a little bit on this. I think you can count upon the complete cooperation of the pulp and paper industry in every step of the way in your studies. At what stages data will be made available to you, existing and new, I don't know. But I would like to point out this -- maybe the reason that you feel impelled and compelled to inquire after this is that I believe we're the only people that got up here and put any data up on that screen for you. I would like to submit to you, sir, that maybe you look back and see the general type statement which you couldn't question, but ask for the data. For instance, if the statements are made that the oyster industry shows a decline in South Puget Sound, why don't you ask for the number of acres under production? Why don't you ask for the oyster industry's effort? I think these are things you're going to have to go into and I think as you do -- because you're going to -- probably you're going to logically base the conferees' findings upon an evaluation of these data; and I think as you get into trying to evaluate, you're going to find you've received a lot of general type data. Nothing really that you could question -- opinion, fancy, or anything -- whatever you want to call it. We're the first ones that put in front of you today, you might say substantial data on the water conditions in Washington. I want to reiterate, though -- I think as your study proceeds, that you're going to get the cooperation of this industry.

CHAIRMAN STEIN: Well, we won't pursue that now, I don't think, but when --- (interrupted)

MR. DWORSKY: No, I just wanted to say that apparently then, Mr. Bacon, what we have really before us here is a summary of the data that you have and your interpretation of these data that we have really been presented with here today, and --- (interrupted)

MR. BACON: No, sir, Mr. Dworsky. You have much, much more than that, if you will look at it carefully. Only a fraction of what we put in there are our data. Most of this, such as the reference to the spent sulphite liquor concentrations, the Patrick work and many, many other things are all available to you now. We did draw upon the food chain, upon the rock clams, on some new data, but most of the data that we referred to, as you will notice -- we used fifty some illustrations and the written statement which we are submitting here is supported by a bibliography I believe of about thirty some scientific documents.

MR. DWORSKY: By the way, I was looking for that bibliography and unless I have missed it -- is it in here?

MR. BACON: I talked to Mr. Stein about that yesterday telling him that there were some of the things that we just could not have ready but I think that he agreed that we could submit this within the one-week period. It will all be there, Mr. Dworsky but I do want to answer your question that your thought that most of this as presented here are our data -- quite the contrary. I'd say that maybe seventy-five to eighty percent of it has come from the public record. They are available to you.

MR. DWORSKY: But the conclusions that you drew of course are your conclusions?

MR. BACON: On those matters of the phytoplankton, diatoms and so forth, that is work currently underway but we're convinced that that portion of it is sound enough that we could include it. I would be remiss and I would leave the wrong impression with you if I did not leave the impression that we have a tremendous body of data that we're working upon and I can certainly, as a scientist and engineer, share your desire to see it just as soon as it's available.

MR. DWORSKY: There was one other thing, Murray, along the same line, and that is, I think you used the word that the data that you presented were data that dealt with "the day in and day out" situation, to indicate that this was a sort of the norm that was present.

MR. BACON: That is certainly the impression I wanted to leave.

MR. DWORSKY: What was that?

MR. BACON: That's the impression I wanted to leave.

MR. DWORSKY: Yes.

MR. BACON: We're talking about average day in and day out conditions.

MR. DWORSKY: Yes. Well, I think that the only thing that I wanted to make note of here was the fact that with respect to the analyses of these data, as you well know, adequate analyses oftentimes must be done during the critical periods of time or season or operations of a plant or for other factors which are of the critical nature; and I take it then that this day in and day out situation does not represent these critical periods.

MR. BACON: Thank you, Mr. Dworsky, for that comment. There aren't critical conditions. Now, I want to go back into the record a little bit. If we were causing a break in the food or fisheries chain, that was harming a resource to any degree, I think you absolutely would be justified in saying, "This must cease." Our point is, and the entire presentation that we have made here is that conditions are uniform enough -- are level enough so that this is not happening. Now, let me tell you a little incident that occurred, and I think this can underscore your point: I've told you that we have made extensive monitoring on the

Columbia River -- I'm sorry -- on the Snohomish River. During the critical season of the year, when the temperatures are high and the river flow is low in Everett, we monitor those waters day by day in case a dangerous level does develop. About three years ago, we uncovered an extremely dangerous level of dissolved oxygen which existed in the Snohomish River. In fact, the river got down to two parts per million, and one of the mills -- they all participated in this monitoring program -- immediately called the Pollution Control Commission for the signal as to what to do under those circumstances. I'll add right now that the cause of the low DO was a dredging condition by the Corps of Engineers; but the dissolved oxygen at that time got down to two and less parts per million. Now, according to the Commission, since nothing was stopped, certainly this could not be classed as a critical condition and it wasn't. So when we're telling you that we think these are representative conditions, we mean there is not a break in the resources chain here. Now, let me make one other thing clear to you people and to the audience. We have never for one single minute, as you can see here, denied that we are changing the ecology to a minor extent in the immediate vicinity of our outfalls; but I submit to you, as the Federal Agency and as a representative -- that is the representative of the largest, probably, operation in the

State of Washington -- Hanford -- this change in ecological conditions which we are asking for in the immediate vicinity of our operations, you are accepting day in and day out as par for the course on the Columbia. We are not asking for the privilege to pollute and cause low DO -- dissolved oxygen conditions. We are asking for an equitable, economic approach to our resources. And if we have a situation in inner -- we will say Everett Harbor that is not pristine pure, we are admitting that. There is no argument with you or anyone else on that point.

CHAIRMAN STEIN: Mr. Bacon, I think Mr. Dworsky may want more time but I think you recognize that we will be taking up the Upper Columbia River at a later date.

MR. BACON: Well, I didn't try to bring it in except to illustrate the principles.

CHAIRMAN STEIN: But there is no principles -- there may be a principle here that I see here, is that I hope we're all operating in the traditional American spirit of fair play and until those people up there have an opportunity, as we all have here, to make a statement and answer, that we will make not any allegations with reference to their operations.

MR. BACON: No. We're talking about dilution and dispersion areas and the soundness of the principles thereof; and that's all we're asking to have considered.

MR. DWORSKY: Well, with respect to these areas of dispersion and dilution, I notice in -- I had about oh, at least a half a dozen places in your paper, but I won't go back to the specific points now, but the question came to my mind as you were going through those that you were outlining areas, you indicated something about distances, but I saw nothing in here in terms of any data that would give us some idea of the kinds of distances you were talking about or areas of influence that you were talking about. They were in very general terms -- they couldn't be identified in terms of whether you're talking about a square mile or five or ten feet from the outfall.

MR. BACON: I thought we had been rather clear on that point, and since apparently we were not I will go back.

MR. DWORSKY: Well, I'll be glad to go back to the points --- (interrupted)

MR. BACON: We were telling you that in Whatcom Creek waterway, there is an impact, but we're saying by the time that it is out of that inner harbor area or about a thousand to twelve hundred yards, that at the point where we reach Squalicum Creek, if Squalicum Creek supported any migrant runs of fish, that we think conditions are completely satisfactory for the supporting of fish life. In the Everett Habor area -- the Everett area --- (interrupted)

MR. DWORSKY: Is this figure a radius figure?

MR. BACON: A radius, yes, sir. You will notice on that one chart, the blue area. And by the way, Mr. Dworsky, we're saying that a reasonable solution would consider that a dilution and dispersion area -- whether it's eight hundred, whether it's a thousand, whatever it is, but something has to be defined in this manner so that we'll know wherein -- what the conditions are in and are out. But even in this case, we are not suffering zero DO, which is probably the single, most used criteria in any of these areas except at the immediate vicinity of an outfall, where if we had a stagnant condition for a short period of time; and these will be rare. Now, in contrast to what I have said to you here today, we've tried to indicate what we fairly think are conditions in our area. There is no doubt about it. You can take an isolated sample and if you get close enough to the outfall, sometimes I believe you'd almost have to crawl into the outfall, you'll get some of those figures that you had submitted to you yesterday. But by the time you get a figure of seventeen thousand parts per million of spent sulphite liquor, if that's mixed with the other mill wastes, you are getting the whole mill waste right at the outfall and it's going to have to be mighty, mighty close. And let's make one other point clear: There is no doubt about it, you can take a cage of fingerlings and put them at our outfall -- right there, and kill them.

There's just no doubt about it. You can take probably any discharge in the State of Washington of any magnitude, including a sewage treatment plant and they are not going to live in it. This is what we're trying to say to you people that if a reasonable -- that is, an economically reasonable and a community reasonableness area is allowed, we are not harming the resources of the State of Washington; and even within those areas, we think conditions are pretty doggone good.

CHAIRMAN STEIN: Well, let me make some comments, and this will be very brief -- not for the sake of argument here, particularly at the end, something that deals with the --- (interrupted)

UNIDENTIFIED: Louder, please.

CHAIRMAN STEIN: --- with the Federal programs. Right at the end, on page 48 of the statement, Mr. Bacon said, "It is like asking for a hundred fifty dollar air-pollution-control device on all Washington automobiles just because they are needed and reasonable on autos in Southern California." The reason I bring this up is, this was a special project of our Secretary, Abraham Ribicoff. As I understand this device that was brought up -- no one asked for the hundred fifty dollar device. It was a five-dollar device. They thought the pollution -- air pollution which could have been prevented by this was sufficiently widespread that they asked all manufacturers to do it and I understand that the major automobile manufacturers have voluntarily agreed to do this.

MR. BACON: Excuse me, I must comment to that, that our law, as I pointed out, says three things: (1) We must be granted a permit if there isn't undue pollution, which obviously calls for a definition. It also says that the qualities of the water which indicated pollution -- a pollution condition must be set; and then it also says that the State may require the use of known, available and reasonable. We're trying to submit that this latter statement that I made cannot be taken out of context from the rest of the Act. And since there is a tendency -- seems to be a growing tendency -- because a process works in Alabama, as at one of our mills and because a certain type of treatment is needed there to protect a small stream, that does not necessarily mean that it should be invoked or demanded of a mill in this area if we are not hurting the resources.

CHAIRMAN STEIN: I can fully agree with your principle, Mr. Bacon. I am just pointing out in your situation here, dealing with the attitude of the Federal Government on the bias, the example was picked which particularly related to our agency, and which a hundred and fifty fold magnified the device which was being asked. The next point I would like to bring out is that I was on that airplane trip. I was also present when the quote was made. This is not the full quote. I don't know if it appeared that way in the newspapers and again speaking for our department, I don't know that we depend on newspaper quotes in a statement we make before a board, without checking that out; and if I might, I'll just go to the last point. The last point is that "further prejudging on this matter was indicated by the apparent bias indicated in yesterday's session". You didn't say who the bias was by, whether Federal or State people but the entire discussion seems to deal with Federal people. Mr. Quigley didn't say anything at yesterday's session as far as I can recall. I think the record of the session is going to be made, a verbatim report will be available and the record will speak for itself. And again, here you also said that you were the only one who presented data. Now, that's a pretty serious statement and I don't see any --- (interrupted)

MR. BACON: On the water resources. I would like to make three points: (1) The reference to the air-pollution-control device, Mr. Stein, to put you at ease, has been made long before the announcement of the Federal Government appearing in the State of Washington. Secondly, we do feel that if you start dwelling upon such matters as a mill in the Everett area discharging two million pounds of something, that's not the story. After all, if you talked about two million pounds in one hundred million gallons of waste, if you had talked about sea water into which those wastes are discharged, there are twenty some million pounds of solids. And this leaves, we think, an impression with the public and with the conferees that the mere existence of something is harmful. We do not think the mere existence of something is harmful. We think it has to be and our plea is for you to relate those existences of matter to the environment and to the economics and resources of an area.

MR. DWORSKY: I'd like to make a comment here.

CHAIRMAN STEIN: Go ahead.

MR. DWORSKY: I think also, Mr. Bacon, that I would like to make myself, my comments on the record -- put my comments on the record with respect to your quote here as to what the official representative of the Federal Government saw after his ninety-minute airplane flight. I was at the press conference and Mr. Quigley indicated, upon being pressed for an answer or a view of what he saw on the flight, indicated that on the basis of visual observations, he saw clear evidences of water pollution from the operation of the pulp mills but that he did not and could not make any comment with respect to the details of the effects, because he wasn't qualified on the short flight that he had and this was the full comment that was made at that time. Now, then, the other point that I wanted to make comment about was with respect to on page 44, you indicated that the Washington mill has spent over thirty million dollars in facilities. And I think that this -- to the public now, in using terms and phrases and dollar signs, which tend to give the public a wrong inference, I would like to ask you whether these thirty million dollars, what portion of those are represented in terms of actual water pollution control facilities and not elements of by-product recovery or those things which are aimed at inducing efficiencies in plant, which might ordinarily --- (interrupted)

MR. BACON: You have made a good point. Of the thirty some million dollars, probably about forty percent is for facilities that pertain directly and solely to pollution control abatement facilities. The other sixty percent has a dual purpose -- they pertain to save-alls, they pertain to recovery systems for chemicals, they pertain to the tightening up of a mill, which does two things, but very often, this has been brought about by the Pollution Control effort and desire; but certainly, we would not claim that everything we've put in in a recovery system is charged solely to a pollution control device.

CHAIRMAN STEIN: Next, I'd like to just get a clarification. This is right at the beginning and I really didn't understand this, Vint. You said, "Since the Federal

Government has been invited to participate as an assistant to the State of Washington --- (interrupted)

MR. BACON: This is the way it has been portrayed in this area and we --- (interrupted)

CHAIRMAN STEIN: Wait a minute -- wait. And then you go on on the next page, "Therefore, it does not seem germane, before considering the substitution of Federal law for State law" -- well, which side are we working on?

MR. BACON: We're covering both sides, sir. We had it portrayed to us as a certain condition at the time being, but we're anticipating a change.

CHAIRMAN STEIN: Thank you. That's right, you're working both sides. (Laughter) Would you permit me one more comment now? There is one thing that I have worked on through the years, as you know, and this is the only reason I make this -- one problem I have worked on, and that is vital legislation on this than any other field. You skipped the last sentence in a quote on the bottom of page 2 by saying, "The model act is an exception" when you read it.

MR. BACON: That's right.

CHAIRMAN STEIN: This is precisely the point. And let me read the full quote. It says, "The most important use of water, except for drinking, is for waste disposal. It is a natural use. The civilization we know could not exist without streams to carry away man's wastes. Yet this use generally gets only incidental consideration when water use legislation is proposed. The model act is an exception." This is the situation and the public policy on this has been changing. We found this -- we developed the model act in 1950. And in developing the model act, we took the best existing or what we considered the best existing state acts -- among them, as an example, was the State Act of the State of Washington. Now, I would not be disposed and we would leave this to the State of Washington officials to come up with such a clear definition of what the purport of the State Act of Washington is, but I think the very fact that the model act is the exception and the State of Washington Act was used as the basis for the model act, it seems to negate the main argument up above that this State of Washington act thinks as one of the primary purposes of the use of water is for the carrying away of wastes.

MR. BACON: You gave me license to read it as I saw fit. After all, in one case, you're talking about existing conditions and in the other, you're talking about a suggested act. And this is in the quote. That's the complete quote. Of course, there's much more than that to it too.

CHAIRMAN STEIN: That's right. Well, I have no further comments.

MR. DWORSKY: I have one more question. Mr. Stein, yesterday, made comment to a part of our law which was Section 2(b), dealing with the new amendment this last year, on low flow regulation; and on page 3 of Mr. Bacon's paper, he quotes here, the U. S. Senate Select Committee. I'd like to read his quote here. He says, "Even when advanced practices for waste treatment are applied, large quantities of water are needed for waste dilution if quality standards are to be maintained which safeguard domestic supplies and permit use of lakes and streams for outdoor recreation purposes and for fisheries." Now, I believe that perhaps Mr. Stein didn't read that quote, but I wanted to make one point here. He said, "In the survey or planning of any reservoir by the Corps of Engineers, Bureau of Reclamation or other Federal agency, consideration shall be given to inclusion of storage for regulations of stream flow for the purpose of water quality control, except that any such storage and water releases shall not be provided as a substitute for adequate treatment or other methods of controlling waste at the source" -- and this implies that before you can use waters today and for the future, in the Nation, on a rational basis, for the dilution of wastes, that there has to be, and presupposes -- and this is the Kerr Committee's recommendation in their final report, that there will be adequate treatment of wastes, both cities and industries, before waters are used for dilution purposes.

MR. BACON: Mr. Stein, may I -- we don't suggest that you raise havoc with your budget by printing these, but we would like to submit some other documents which may not be a part of your library that we have referred to as I mentioned them in my presentation. We'd like to have you have these for your study.

(Following documents received by Conferees and included in Appendices of ORIGINAL RECORD ONLY under Section "For Official File of Conferees" and may be referred to in such official file as follows: "Winter Steelhead-Washington-Fluctuations and Trends", by Roger Tollefson, as Appendix "B"; "A Summary of Fishery Statistics of the Pacific Coast", as Appendix "C"; "Some Points from the Report 'A Summary of Fishery Statistics of the Pacific Coast, etc.'", as Appendix "D"; "Statement to Washington Pollution Control Commission Regarding Water-Quality Standards Recommended by Director of Fisheries by Northwest Pulp and Paper Association," as Appendix "E".)

CHAIRMAN STEIN: Yes; by the way, let me, for the information of the people in the room here, I'd like to just go off the record on the reproduction.

(Off-the-record remarks)

(Following data pertaining to statement of Chairman Stein appearing on Page 358 of this record, received by the Public Health Service, Portland, Oregon, herewith included in the record as follows:)

FISHER'S TELEVISION COMPANY

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American Broadcasting Company

January 18, 1962

Mr. Lew Holcomb
State Pollution Control Commission
Old Capitol Building
Olympia, Washington

Dear Lew:

Enclosed is a verbatim transcript of Secretary Quigley's comments as recorded on our soundfilm and televised on our news program of January 15.

As I told you on the telephone, this represents only the portion of the news conference that was used on the air. The "cuts" have been disposed of.

Hope this is what you asked for.

Very truly yours,

/s/ Herb

/t/ Herb Robinson

News Editor

Encl.

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From KOMO-TV News - Seattle

Comment by James M. Quigley, Assistant Secretary for Health, Education and Welfare.

At Boeing Field, Seattle, January 15, 1962

(Following introductory material by "on-camera" announcer):

2: "For the last hour and a half or better, we have been flying around the Puget Sound area in a Coast Guard plane, and I can say that on the basis of my visual observation, we saw clear evidence that there was water pollution resulting from the operation of several of the pulp mills in this area.

"The extent of it, of course, I can't comment because I don't know. But certainly there was prima facie evidence by looking down from our plane that the waters in that vicinity were being polluted by the operation of the mills.

"Recognizing -- as I think we all do -- that basically, pollution is a local and state problem. (sic)

"Congress has made its determination that the federal government should move in and should act in this area because we recognize more and more that the over-all problem of this nation's water supply is a national problem.

"And we've got to solve it, and protect it the best way we can. There's recognition that this cannot be done just by the state and local governments alone."

(Telecast at 6 p.m. and 11 p.m.)

CHAIRMAN STEIN: Thank you.

MR. BACON: Thank you very much, gentlemen.

CHAIRMAN STEIN: It is now 1:15. May we stand adjourned until 2:30 or recess until 2:30. We hope to see you all then.

(Whereupon, at 1:15 o'clock p.m., a recess was taken until 2:40 o'clock p.m., at which time the conference reconvened.)

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AFTERNOON SESSION

CHAIRMAN STEIN: May we reconvene? Mr. Bergerson?

MR. BERGERSON: I would like to announce again that if there are any of you here that have not registered on our registration list, we'd like to have you do that, in order that our list may be complete and also that you may get a copy of the proceedings of the conference.

The first speaker this afternoon will be Mr. John McEwen of the Weyerhaeuser Timber Company. Mr. McEwen.

STATEMENT ON BEHALF OF SIMPSON-LEE PAPER COMPANY, SCOTT PAPER COMPANY AND WEYERHAEUSER COMPANY

(By Mr. John McEwen)

MR. McEWEN: My name is John McEwen; I am the Branch Manager of the pulp and paper board division of the Weyerhaeuser Company's Everett Branch.

I make a statement on behalf of the three mills in Everett -- the Simpson-Lee Paper Company, the Scott Paper Company and the Weyerhaeuser Company.

Simpson-Lee Paper Company, Scott Paper Company and Weyerhaeuser Company wish to thank the State and Federal conferees for the opportunity to submit our statement at the first such joint effort between our State and Federal Government agencies. Our firms, together with others in our industry, have long been concerned with the development of adequate protection measures for the waters of this State. We sincerely hope that this joint conference here today will lead to further achievement in the conservation and development of our vital water resources.

At the outset, we wish to point out that the State Pollution Control Commission, the State Health Department, the Department of Fisheries and the Attorney General of the State of Washington are agreed that public health is not endangered by the effluent from our pulp mills. Consequently, we are not addressing ourselves to the issue of public health.

We do wish to tell you about our concern for the protection of the waters of the State of Washington, as evidenced by our actions and efforts.

In order to operate our mills, we must be able to discharge several million gallons of liquid effluent into the adjoining waters each day. Effluent dispersion is generally recognized as an important and legitimate use of State waters, as long as it does not unreasonably impair water quality for other users.

During our years of operation, we have, individually and collectively, maintained a continuous concern for the protection of Puget Sound and Snohomish River waters. More than twenty years ago, we began joint efforts to study water quality in Puget Sound waters. Over the years, we have actively and constructively continued these studies.

As a result, we devised many new water protective measures.

Two of our companies joined in the construction of a deep-water dispersal line to discharge mill wastes in the deep offshore waters of the Sound. A former director of the Pollution Control Commission wrote in 1954, and I quote:

"The method of disposal now being used by the pulp mills on Port Gardner Bay appears to have a number of advantages over the old method of surface discharge but it may be considerable time before the effectiveness of the deep-water dispersal line can be fully evaluated."

We couldn't have agreed more completely. Our studies of the effectiveness of this deep-water dispersion have continued from the installation date to the present time. Our findings indicate that the dispersion line has been successful in eliminating undesirable conditions that may have previously existed.

The deep outfall wasn't our only accomplishment. During the past ten years, our Everett mills have spent millions of dollars on many other installations designed solely to improve out ability to protect the waters of the bay. We have designed and installed equipment to remove some of the wastes and chemicals that once were disposed of in adjoining waters. We have installed an elaborate monitoring system to warn of accidental spills or leaks within the production process.

Better control of the wastes the mills must discharge was insured by the design of facilities whose primary purpose was the improvement and expansion of our productive facilities.

Our water protection research programs have been continually intensified. Today, they are one of our most important research efforts. Our technical staffs include many trained scientists who make no contribution to mill production. These men devote their time to water protection research and management of our water protection equipment. All of these efforts have produced results and will continue to do so. Our research efforts have not diminished nor do we expect they will in the future.

We believe that the pollution control laws of this State, properly administered, are sound. They represent a solid framework within which the Pollution Control Commission can effectively work to protect the waters from pollution. We supported these laws when they were originally introduced and we intend to comply with them.

Last spring, the Pollution Control Commission issued orders to each of the three Everett mills, requiring the installation of various types of pollution control equipment. Pursuant to the provisions of the Washington law, we have appealed these orders. All of our equipment installations, research activities, continual water surveys and better technical know-how, indicate that our companies are not harming waters for other users. The purpose of the appeal is to determine whether the Commission orders were reasonable and whether the mills will harm other users of State waters.

Since last September, we have participated in the hearings scheduled by the Commission and in connection with the appeal. We are proceeding in an orderly fashion to determine whether the installation of any or all the facilities required by the orders of the Commission are necessary. Our companies have repeatedly asked the Commission to tell us the basis upon which the Commission:

Number 1: Found we were harming other water users;

2 -- Ordered the installation of equipment that we do not believe would produce any improvement in the quality of the waters of the State in return for the thirty-five million dollars which it would cost.

We intend to cooperate with the Commission and participate in the hearing procedures, working toward a logical and satisfactory solution for all parties concerned. Our course is clearly outlined by the laws of this State. All parties have agreed that our mills are not endangering public health. Our research activities include that our operations are not now harming the water for other users.

Thank you.

CHAIRMAN STEIN: Thank you. Are there any comments or questions?

MR. DWORSKY: I just have one brief question. In Mr. Bacon's statement, I think it was noted that all -- I think he said "all of the requirements of the Commission had been satisfied except the one dealing with sulphite waste liquor" -- and I don't mean to have you answer necessarily for those comments in that statement, but I was trying to relate your thirty-five million dollars' cost figure to his statement. Do you, as far as you know, apply this thirty-five million dollars' cost to the problem of sulphite waste liquor only?

MR. McEWEN: This is the sulphite waste liquor cost for recovery processes as outlined.

MR. DWORSKY: And this is for the three mills that you are speaking for now?

MR. McEWEN: That includes the three mills.

MR. DWORSKY: Three mills.

MR. McEWEN: It is primarily two mills -- most of the cost is made up by two mills.

MR. DWORSKY: Two mills. Thank you.

CHAIRMAN STEIN: Any further comments or questions? (No response) Thank you very much.

MR. BERGERSON: I have two telegrams -- they are actually duplicate telegrams. One is addressed to Earl Coe, Director of Conservation and the second one is addressed to myself, as Director of the Washington State Pollution Control Commission. "Dear Sir: Immediate action is needed for pollution abatement in Washington State waters. Urge Federal assistance and enforcement in this program. C. A. Norman, Secretary-

Treasurer, Kitsap County Central Labor Council."

The next speaker I am going to call on is Mr. Dave McMillin of the Olympia Oyster Company.

STATEMENT ON BEHALF OF
OLYMPIA OYSTER COMPANY

(By Mr. David C. McMillin)

MR. McMILLIN: My name is David C. McMillin. I am Manager of the Olympia Oyster Company, located between Shelton and Olympia, which produces more than half of the world-famous Olympia oysters.

I would be happy to present, if requested, a detailed report concerning the crushing decline of Olympia oyster production with a low in 1956-57. We had predicted this decline in advance, as well as the rapid recovery following the closure of our local sulphite mill.

Olympia oyster production is continuing to increase. We have experienced a record seed crop in spite of the fact that the viruses, marine pests and other natural extremes are still in abundance. The pulp industry claimed these to be the major contributors to the production decline.

We are pleased and grateful for this new approach to this tremendous pollution problem and hope that a fair and equitable solution may be found which will eliminate the reoccurrence of the difficulties which so greviously plagued the Olympia oyster.

With your indulgence, I would like to rebuttal three points Mr. Bacon made.

CHAIRMAN STEIN: You make a full statement on what you want to cover.

MR. McMILLIN: Mr. Bacon showed graph Number 45, which showed the Olympia oyster production; and it showed a graph ranging -- high production beginning in 1900 off to the left and slanting down to a zero point in 1957, with a slight upswing at that point. Now, before white man came here, all the areas, California -- as Mr. Bacon has pointed out -- all the areas -- California, Oregon, Washington, Puget Sound area, held the native Olympia oyster. White man being the type of individual he is, they rapidly over-harvested and eliminated all the wild crop, until the only area remained that had Olympia oysters was in lower Puget Sound, where the early oyster men had observed that dike culture was the only way to preserve the Olympia industry; and in Puget Sound only was the only -- were the dikes constructed.

Now, the wild harvest was in 1900 to 1910 and about 1910 to 1927, the dikes were constructed. At about 1927, the time the pulp mill was built, the dikes were -- construction ceased and also the production of the dikes began to diminish. So the men that constructed the dikes never had a chance to finish their diking program or ever had the chance to prove that the diking system would increase the production. They never had the chance, in our opinion.

The second point, that the lowest point in the Olympia oyster production was in 1957 and that the oysters that we are harvesting now were conceived and reproduced when the mill was in production. That is not true. In 1957, when we reached our lowest point of production, we had no seed oysters either. Our market oysters as well as our seed oysters were what I would like to refer to as commercially unavailable. So therefore, any production that we have -- anything that we have produced since that day, was oysters conceived and born and spat and spat-fall from that date on; and as -- to indicate what we have done, from the '57 through the '59 period, we had markets for Olympia oysters but no oysters. But we did produce and we produced, at times, one-year-old oysters for market. And from '59 through '61, it has averaged only two-year-old oysters for market. And we're still in the two-year-old production case and we hope now, with a greater seed recruitment that we have that some year in the future, we can return back to what it should be. It should be a three-year crop.

Now, this is not in rebuttal to Mr. Bacon's statement. I would like to make a statement on my own. I would recommend that you people investigate the testing procedures used now, to measure the content of waste sulphite liquor in the sea water; and measure that against the fact that there is what the pulp mill people call "a stabilized sea water" and that means that when the sea water is analyized, they measure only color -- not the toxins, in my opinion -- not the toxic elements. Only the color elements, the lignin; and that fades rapidly. And that the tests and the results of these tests indicate only more the -- the maximum counts and there is no doubt far greater concentrations than indicated by this color test.

So, in conclusion, I extend to you an invitation to inspect all of our facilities and data.

CHAIRMAN STEIN: Mr. McMillin, when you started, you offered some additional data. If you wish, you can get that in to Mr. Dworsky in Portland and send it to him directly.

MR. McMILLIN: Yes, I was confused. I didn't know exactly how much data you wanted and what length --- (interrupted)

CHAIRMAN STEIN: Any material which you --- (interrupted)

MR. McMILLIN: We have volumes of data.

CHAIRMAN STEIN: Don't hesitate. We have a big staff and a big repository and you can be assured that all data will be given careful consideration. You just get in touch with Mr. Dworsky and we will be happy to receive it.

MR. McMILLIN: Thank you.

CHAIRMAN STEIN: Thank you.

MR. DWORSKY: We'll be looking forward for that data, Dave.

MR. McMILLIN: All right.

(Following data received by Public Health Service, Water Supply and Water Pollution, PNW, Portland, Oregon, herewith entered and copied into the record as follows:)

TELEPHONE
SHELTON 6-3402

OLYMPIA OYSTER COMPANY
Post Office Box 567
SHELTON, WASHINGTON
(Oyster Bay)

January 23, 1962

C O P Y

Mr. Stan Knox
Pollution Control Commission
224 Old Capitol Building
Olympia, Washington

Dear Stan,

Enclosed you will find data concerning oyster yields, production records, and other pertinent information applicable to the pollution question of Southern Puget Sound. I would appreciate it if you would forward a copy of this to the Federal officers who requested this additional information and use this data as vigorously and as effectively as possible in your Pollution Control program.

1. The Olympia Oyster industry has always advocated that the waste discharged from the Shelton mill was a major contributor to the decline of the production of the Olympia oyster.

2. That Pacific oysters were brought in after the Pulp Mill construction as a salvage crop and were successfully raised in volume for approximately 15 years.

3. That the Shelton mill increased production after 1948 and Waste Sulphite Liquor has been detected over the oyster beds correlating with the operation of the mill.

4. That the detecting agent in water analysis tests is lignin which fades considerable in sea water; confirmation of this supplied by Shellfish Laboratory, Quilcene, and that in reality there were much higher concentrations of Waste Sulfite Liquor over the oyster beds than detected.

5. That prior to the pulp mill the State of Washington operated diked areas in Oakland Bay. These areas produced large quantities of Olympia seed oysters which were sold to the Olympia oyster producers at a high annual profit to the State.

6. All of this disappeared within 12 months following the operation of the Pulp Mill in 1927-28, and the Fisheries Department at the time, in their annual bulletin, pointed the finger of suspicion at the new Pulp Mill.

7. That the Pulp industry purchased all of the private tidelands in Oakland Bay to avoid unpleasant accusations

through the following years, and that the State program has never been re-established on Oakland Bay reserves.

8. That the oyster industry predicted the continued decline of Olympia production while the Mill operated, and production would return when Waste Sulfite Liquor ceased to flow over their oyster beds.

9. Fisheries Department statistics shows low production period of 1957 --- Industry all but extinct; market oysters as well as seed crops failed. Production had to begin in 1958 with mostly one year old oysters and has increased until the present when most of the oysters are only two years of age.

10. It may be two or three more years before the oyster industry can catch up with increasing sales demands and harvest a normal three year old oyster. Nevertheless, production will continue to increase.

11. Olympia oyster shucking rate reflected size and quality of market oysters. In 1948 average opening per shucker was approximately 21 quarts per 8-hour day. In 1957 average shucking rate of 5½ quarts per 8-hour day. Presently, 1962, an average of 11 quarts.

12. The Pacific oyster yield reflected the increased pollution over the oyster beds with diminishing returns per case of Japanese seed oysters planted. In 1954 the Olympia Oyster Company experienced a return of approximately 60 gallons per case of seed planted. In 1957 our records indicate

a case yield of approximately 17 gallons. In 1961 the yield increased to approximately 24 gallons to a case of seed planted. It is anticipated that in 1962 the recovery will be approximately 30 gallons per case of seed planted, and judging from the excellent survival of Pacific oyster seed planted since the mill closure, it appears that in 1963 the recovery will be between 40 and 50 gallons per case of seed.

13. It is grossly apparent to those in the oyster business in Southern Puget Sound that all data correlates to prove without question the devastating effect of Waste Sulfite Liquor over oyster beds.

14. In view of the recent environmental recovery, many operators in this area are gradually reducing plantings of the salvage crop of Pacific oysters and replacing those tidelands with crops of the Olympia oysters.

15. The Southern Puget Sound area is the only area in the world with such an advanced and scientific approach to the farming of oysters utilizing dike construction, and should be recognized and protected against future environmental difficulties.

16. The Olympia Oyster Company produces Olympia oysters from their own beds, purchases Olympia oysters from a few beds under lease to employees of the Company, and purchases oysters from outside independent producers. The following data is only the production from the Company's grounds and

is not the total annual production which would include oysters from the other two sources.

In 1952, Olympia Oyster Company produced 2,566 bushels of Olympia oysters. In 1957 the Company produced 406 bushels of Olympia oysters. In 1961 the Company harvested 1458 bushels of Olympia oysters from their own beds.

Judging from the healthy crop of seed oysters on the ground, it is anticipated that by 1963 the production will be approximately 2,000 bushels of Olympia oysters.

Sincerely,

OLYMPIA OYSTER COMPANY

David C. McMillin

Manager

DCM/rl

MR. BERGERSON: The next speaker will be Mr. Oliver Malm, representing the Weyerhaeuser Timber Company.

STATEMENT ON BEHALF OF
WEYERHAEUSER TIMBER COMPANY

(By Mr. Oliver Malm)

MR. MALM: Mr. Chairman, gentlemen, I will address myself and I trust quite briefly for a lawyer, to the one point -- that is, the nature of delays, if any, which are being encountered in the enforcement of the State law.

Preliminarily, I would point out that so far as these hearings are concerned, we have two applicable State statutes -- one is the Pollution Control Act and the other that's involved is the Administrative Procedures Act.

Now, also, we should bear in mind that so far as these proceedings are concerned, they involve a number of companies and the operations of a number of mills. There are, as you've heard earlier, from Mr. McEwen -- there are involved millions of dollars in these cases. It is not a situation where we are concerned with justice court enforcement of a simple State statute.

Briefly, to review the record here, I would like to point out that so far as Weyerhaeuser is concerned -- and I think the date is rather common to all other companies involved -- it was on May 19th of 1961 that the Commission issued a permit to our company and in that respect, there was some question as to how specific were the requirements. Not to alarm you with this file -- this is not going in the record. (Laughter) Not that we have anything to hide. I'm just sure you wouldn't want all this. The permit involving Weyerhaeuser was quite specific in the requirement that on or before November 24, 1963, there must be installed, facilities for the removal of settleable solids from all mill effluents and number two, facilities for the removable of eighty-five percent minimum of the digest to cooking liquor total solids. And in each instance, the requirement is quite specific -- that disposal of these solids shall be other than to the waters of the State. While I have the permit before me, I would like -- because I will again be making mention of this factor -- to advert to paragraph 11 of the permit, which states, "In fixing the conditions under which this temporary permit has been extended, the Commission has taken official notice of the matters of technical knowledge, notorious fact and business custom, contained in its public records, technical bulletins and reports of permittees engaged in industrial operations in the affected areas."

Now, as contemplated both by the Pollution Act and by the Administrative Procedures Act, hearing was requested by all of the affected mills who have participated in these administrative hearings. Weyerhaeuser filed its application on June the 2nd for a hearing. Then, no further action was taken in that regard until September 6th, when the Commission entered an order, designating and appointing a Hearing Examiner, namely, Mr. Hollem (phonetic), consolidating the proceedings, fixing a hearing schedule and prescribing the hearing procedure. Let me hasten to point out I mean no criticism whatsoever at all, with respect to the interval between June 2 and September 6th. That interval however, did occur, between the date we filed our application and the date the Commission entered the order. Vacation time may have accounted for some of that. Even lawyers like a vacation once in a while, but they don't very often get it.

Following that order, the first pre-hearing conference was held on September 15th of 1961, under the guidance of Mr. Hollem and we have appeared before him on each and every occasion, designated and specified by him from that date to the present date and we are going to again meet with him on Friday of this week.

Now, shortly after the first -- pardon me, I would like to go back to the application -- our application for permit. At the time we filed the application for -- the hearing, I mean. The time we filed the application for the hearing, we made what we thought then and still consider to be, a request for information pointed directly to paragraph 11, which I quoted to you -- which in brief amounts just to this: We asked the Commission and its attorneys to advise us of the basis and grounds upon which the Commission concluded to issue this temporary permit, which under the statute is, in fact, an order. We made that request and it was totally ignored -- totally ignored. Nothing was filed in the proceedings in response to that request.

In the face of that, on the 12th of October of 1961, we filed interrogatories, which is a kind of a long-winded word for questions. Those questions were patterned after the self same questions that we had included in the original application for hearing, again seeking to learn the basis, the grounds and the reasons, which persuaded the Commission to issue the permit. The Attorney General opposed that. He declined to answer all but four of such questions and for whatever reason, to this date, the attorney for the Commission has not even answered the questions he agreed he would answer. As a matter of fact, he moved to strike all but four of the interrogatories and in that respect, he was sustained by the Hearing Examiner and the Commission. We appealed that matter to the Commission and were heard on December the 12th. That was sustained. Failing to secure basic facts -- at least what the Commission said persuaded them as facts -- on the 17th of November, we asked to take depositions of those who have knowledge of those facts. That was opposed by the Attorney General.

Now, on the one hand, the Hearing Examiner has directed that there first be ascertained, the issues of law common to all these pulp mill cases. In that respect, we have participated -- each one of the counsel for these mills filed what he deemed to be appropriate issues of law. They were quite bulky. In order to accommodate the Hearing Examiner, we appointed a subcommittee of three lawyers, representing all the mills, to boil the fat out of some of those issues of law -- tried to do that, did do it, filed those with the Hearing Examiner and they have been before him since, along with the issues of law suggested by the Attorney General.

He has indicated that a next early step in these proceedings will be to ascertain the facts of the cases which (1) may be deemed common to all the cases, (2) may be deemed specific with regard to one single case. Rightly or wrongly, we think that in order to ascertain what are the issues of fact in these cases, we not only need, but are entitled to know the basis upon which the Commission chose to issue these permits -- orders in May of 1961.

Now, in sum, that accounts for what has transpired in the intervening period which really begins with September 15th until the present date. I think to either lawyer or layman alike, it would appear perfectly obvious that in a matter of such magnitude, involving the number of mills that it does and the kind of money it does, that no charge may be made today; that the Hearing Examiner has suffered unreasonable delay to occur in these proceedings. Our feeling is that if we can once ascertain and determine the factual basis on which the permits were issued, then the companies know that with which they are confronted. Until we do, we do not have that knowledge. In order to be perfectly candid and accurate about it, I should say that the most recent activity in that regard was when Mr. Riley gave us a letter last week indicating that at an early date, the information we have sought for three months, will be made available to us. I think he'll do it.

Thank you very much.

CHAIRMAN STEIN: Thank you. Are there any comments or questions?

MR. QUIGLEY: I have a question or two, Mr. Malm.

MR. MALM: Yes, sir.

MR. QUIGLEY: In an effort to spread on the record things done and things undone, I think you made clear that in the issuance of the temporary permit to your clients, that they were directed to complete certain construction requirements deemed appropriate and proper by the Commission, and that these were to be completed by the end of 1963?

MR. MALM: November of 1963, sir.

MR. QUIGLEY: November of 1963. However, just for purposes of the record, in making sure that it's complete, were your clients required to do anything else or permitted to do anything in the alternative?

MR. MALM: The permit, of course, in that respect, speaks for itself.

MR. QUIGLEY: Well, this is the point I am getting to. I want to make sure that we have everything that was in the permit in the record.

MR. MALM: Well, then -- and I am sure that the Commission can -- or we, either one, be quite happy to complete the record by inserting therein, a copy of Permit T-406, dated May 19th, 1961. In addition to what I indicated, we were directed by the Commission to submit engineering plans for the above-mentioned facilities, accompanied by pertinent supporting data, to the Commission for review and approval by March 1, 1962.

MR. QUIGLEY: This would be the plans for the construction that was to be completed by November of next year?

MR. MALM: That's right, sir.

MR. QUIGLEY: And they are due to the Commission by when?

MR. MALM: By March 1, 1962.

MR. QUIGLEY: And did the temporary permit provide for any other alternative that your client might have pursued?

MR. MALM: Under Item 12, it's provided, "any alternative method for the removal and disposal of wastes which are equally effective to those required by conditions 2 and 3 will be considered if submitted prior to January 1, 1962." Now, I should add, in that respect, that during the course of the administrative hearings, the Hearing Examiner entered an order, the effect of which is to stay those conditions pending the hearing. That order was appealed by the Attorney General to the Commission at the self same time we appealed to the Commission regarding the information we seek to obtain from the Commission. To my knowledge, the Commission has not entered any order, either sustaining or overruling the Hearing Examiner, as to the stay order entered by the Hearing Examiner.

MR. QUIGLEY: Now, let me ask you this: Regardless of what the administrative situation might be, has your client submitted to the Commission, any alternate proposal?

MR. MALM: We have not, sir.

MR. QUIGLEY: The point I wanted to make clear on the record was, while the temporary permit, to-wit, order, as you say, provided and required your client to do certain things by November of 1963, it did provide your client with another course of action. Did your client deem the proposal of the Commission to be unworkable, unnecessary, unduly expensive, that it -- your client, could have proposed to the Commission, an alternative solution to the problem, that in your client's judgment, was feasible, practical and would do the job?

MR. MALM: Well, if my client can think up a method or means by which the disposal of these solids can be accomplished by a method or means other than to the waters of the State, the answer is yes and I assume it is still open to us to do that and will be during the course of these hearings.

MR. QUIGLEY: That's the only point I wanted to get on the record.

MR. MALM: That's right.

CHAIRMAN STEIN: For the purpose of -- do you have the number of that "T" permit? I assume "T" means "temporary", doesn't it?

MR. MALM: Temporary 406.

CHAIRMAN STEIN: 406. I wonder if we could, for the purpose of the record, have inserted at this point, and supplied to us by the Commission, all the temporary permits of a similar nature, that are in existence and which have been discussed here.

MR. BERGERSON: We can furnish copies of those.

CHAIRMAN STEIN: All right. They will be included in the record at this time.

MR. MALM: Yes, sir.

(Copies of Temporary Permits 400 (Fibreboard Products, Incorporated); 401 (Puget Sound Pulp & Timber Co.); 402 (Rayonier, Incorporated); 403 (Scott Paper Company); 405 (Scott Paper Company); 406 (Weyerhaeuser Company); 408 (Simpson-Lee Paper Co.); 409 (Simpson-Lee Paper Co.); 412 (Scott Paper Company); heretofore included in the record as Pages 133-A to 133-R, under "Presentation on Behalf of Washington State Pollution Control Commission.")

CHAIRMAN STEIN: Now, that was January 1st, I assume, that you were supposed to put in the alternate method, or is that for the month of January?

MR. MALM: No, January 1, 1962.

CHAIRMAN STEIN: And that date has come and gone?

MR. MALM: That date has come and gone, bearing in mind, however, sir, that a stay order suspending that condition is presently in effect, subject to the Commission's --- (unfinished statement)

MR. QUIGLEY: Thank you.

MR. MALM: Thank you very kindly.

MR. BERGERSON: This isn't in the nature of a question. It's more on the nature of a comment -- on the matter of the nature of delays, I think we have two things to consider here when we consider delays. I think we have to consider that the pulp mill pollution problem first came to public attention in 1937, when the first Pollution Commission was formed by executive order and again it was in public attention when the Pollution Control Law was passed in 1945 and again, of course, pulp mill pollution, along with all the other industries in 1955, when the permit law was passed, so you have delays extending over this period of time and then in addition to that, we have delays which are now taking place just under the matter of processing the law and following the Administrative Procedures Act. And I think sometimes we sort of confuse the two types of delays.

Now, before I proceed further, I have a check book with the name Merle Robison (phonetic) on the front of it. I don't know if he misses it yet or not.

(Laughter and check book returned)

MR. BERGERSON: The next speaker I am going to call on is Mr. James Hunter, representing the Simpson-Lee Company.

STATEMENT ON BEHALF OF
SIMPSON-LEE PAPER COMPANY

(By Mr. James P. Hunter)

MR. HUNTER: Mr. Assistant Secretary, members of this joint conference, ladies and gentlemen that are present here: My name is James P. Hunter; I'm a lawyer, with offices in Everett, Washington and I am the attorney for the Simpson-Lee Paper Company of that city.

I should like to point out that in addition to being attorney for that company, I have lived in Everett and in Snohomish County all of my adult life.

Everett is a city of approximately fifty thousand people. Its chief industry is pulp and paper. Everett is situated in a county of approximately a hundred thousand people. It seems to me, members of this conference, that there is one thing that is absent from this record and by its absence, I think becomes quite conspicuous and that is this: That of the hundred thousand people that live in the Everett area and who in the most, live along the banks of Port Gardner Bay and who raise their families in that vicinity, and who rely upon that area for their recreation and their pleasure, that to my knowledge, not one resident of Everett or of Snohomish County has sought the aid of the Pollution Commission or of the Federal Government or of anyone else to attempt to cure what these people who live there and know it best, is no problem at all. On the contrary, it ought to be pointed out that the records of the Commission will show that approximately two hundred and fifty business firms in Everett and Snohomish County have intervened in these public hearings on behalf of our mills in Everett. And I don't think there intervenors should be taken quite as lightly as they have been alluded to because Snohomish County, a municipal corporation has intervened on behalf of the mills. The City of Everett, through its City Council, has likewise intervened on behalf of the mills. The Everett Port District, the Snohomish County Public Utility District, and the Everett Chamber of Commerce, and the Snohomish County Industrial Bureau and all the labor unions that are employed and have men working in the mills have intervened on behalf of industry. And so, as attorney for Simpson-Lee Paper Company, I sincerely hope and trust that you look at this problem from both sides of the coin, as I know, and I am sure you are going to do.

I thought this rather interesting. Yesterday, like you, I sat here in this room and heard the different State agencies tell how bad things were up in Everett. That's my town. And we don't have an oyster problem up there. We've never grown an oyster in Port Gardner Bay, and never will. But I heard them tell you what a sad situation it was up in Port Gardner Bay and Everett. We were killing all the fish and do you know, while all of us were sitting here in this room yesterday listening to that testimony, do you know what was happening up in Everett? The sports editor of the Everett Daily Herald, in an issue of the Everett Daily Herald, published last night, dated January 16th, 1962, writes as follows:

You know, salmon feed on herring. "Catch runs into thousands. Area's most productive fishing spot right in City's front yard. By Will Nessley, Herald Sports Editor." And there's a picture of them, netting herring on the 14th Street Dock in Everett, which is only about six blocks from the Scott Paper Company and about ten blocks from the Weyerhaeuser Company's mills. And the sports editor writes:

"The most productive fishing spot in this part of the country is not found on some secluded riffle on a fast-flowing river nor is it found in the depths of the Sound.

"More fish are taken from the oil-streaked waters surrounding the Fourteenth Street Moorage Basin here in Everett than in all the rivers combined.

"They most certainly are not trophy fish. Who ever heard of a mounted herring? But they are there by the thousands and they've developed quite a following of fishermen.

"The herring congregate about the basin each winter and often remain there until early spring. They school in all sizes.

"Some are 'spawners,' there to deposit their eggs.

Others are far too immature for spawning but they move in nonetheless. Maybe they come to learn about the 'bees and the flowers'.

"And when they show, so do the fishermen and the fisherwomen and the kids and most of the time they all catch fish. Sometimes by the bucketful. Other times only a scattering few hit the dock.

"Many of the herring fishermen are really salmon fishermen in disguise.

"They come to the landing and the finger stalls of the moorage with herring rakes, nets, snag lines or with lines equipped with single, tiny hooks, with the object of getting herring for bait. They take the fish home, slice off the heads, salt and 'cut' the herring and freeze them for use for blackmouth the next favorable day. Or perhaps they'll keep them until next summer, when the silvers or the humpies move into the bay." Referring of course to Port Gardner Bay.

"Others seek the herring for pickling and then for the table.

"On a good day -- somehow or another, the moorage area always draws fishermen on those days -- several score will be jigging or snagging into the herring. When the fish are schooled, it is not all uncommon for a fisherman to haul in three or four at a time. When they aren't the snaggers working for them.

"As one herring snagger put it as he stripped in his hooks on which three struggling herring were impaled: 'It isn't hardly fishing -- fact it isn't fishing at all -- but it's a lot of fun'."

So while we were listening to testimony of how the pulp industry in Everett had killed the herring of which the salmon feed here yesterday, the people up in my home town, none of whom are here complaining, were out in the Bay catching herring; and I thought you might like to have this issue of the Everett Daily Herald made a part of this record.

Thank you very much.

(News Article referred to is herewith appended in "Appendix to Statement on Behalf of Simpson-Lee Paper Company, by Mr. James P. Hunter" as Appendix "A".)

CHAIRMAN STEIN: Are there any comments? (No response)

MR. BERGERSON: The next speaker will be Mr. R. H. Bailey of the Pacific Coast Oyster Growers Association. I might say that we have only one more speaker after Mr. Bailey. If there are any of you that intended to be heard, you will have to so indicate.

STATEMENT ON BEHALF OF
PACIFIC COAST OYSTER GROWERS ASSOCIATION

(By Mr. R. H. Bailey)

MR. BAILEY: Mr. Quigley and Mr. Coe; Mr. Stein, Mr. Bergerson, ladies and gentlemen: I will make this a little brief. I don't have all this material. I have some covering letters.

I want to make a statement to start with. In the first place, I'll give some credentials. I am President of the Pacific Coast Oyster Growers Association. I am President of the Pioneer Oyster Company, owning fifty-five hundred acres in Padilla Bay. I am President of the Bay Point Oyster Company, operating fifteen hundred acres in Willapa Harbor. In the last five or six years, I planted ten percent of the oysters in California. For many years, I was President of the Willapoint Oyster Company and I was the director of the Coast Oyster Company, the largest people in the business today; and I was director -- rather a director of the Coast Oyster Company, operating in Willapa Harbor; and a director of Newpoint Oyster Company, which made the large plantings. At the time I was the director, made the large plantings in Grays Harbor. So I have a pretty general contact with this industry, except South Puget Sound.

Now, to come back to North Sound -- that's where we're particularly interested. You know, in the first place, when the white man came, those bays were full -- now, on Samish Bay -- was full. Padilla Bay had some large reefs. I talked to the old-timers thirty-five years ago that were there and they used to buy oysters of the Indians. They went out in the bay and got them.

And alongside of Samish Bay, especially, there were great mounds of oyster shells where the Indians had opened them for generations. And then along about in the early '20's, I did some dredging in Padilla Bay. I'm a civil engineer and I had a diking project; and we dredged thirty-five feet deep in the vicinity of our present oyster beds. Do you know what we found thirty-five feet down? We found native oysters. There had been native oysters in that area for the last ten thousand or a hundred thousand years, for that matter. And they had gradually been covered up by the floods of the Skagit and then there would be more reefs formed and that's built up over the years. I mention this because we sometimes hear the argument that that never was oyster ground.

And then when I first got into that area, I bought land up there just forty years ago this year; and we paid twenty thousand dollars for two thousand acres of that land at that time. And at that time, I could go out in the bay and I could pick up native oysters -- not many, but scattered native oysters throughout Padilla Bay. The same was true of Samish Bay. Those oysters disappeared, I would say, twenty-five -- probably thirty years ago.

But at any rate, we planted oysters in Padilla Bay over many years and the last time we planted -- I'll go into that a little later, why, we planted some sixteen thousand cases along in about the early and middle '50's. And so, a year later, they got along a couple of inches long and a year later, we went in and we spent thousands of dollars a-moving those oysters because they were too thick. I mention this because Vinton Bacon showed some natural caught oysters, and how well they did, the first few years. And for the first couple of years, that was true. But do you know, as they came up to marketable size, at three or four years old, you never can fatten those oysters.

Now, I'll say this: You go up there today and open a bushel of oysters and I will say you will get a quart or a quart and a half of very good oysters. They won't be the fattest oysters in the world, but they would be marketable. But the rest of them -- you should be getting around about a gallon -- so say sixty percent or more of the oysters that you have to throw away. As a result, from a commercial point of view, you are out of business. You don't have that kind of leeway. You can't get an opener to open them because the opener would open them and throw away half of them and of course you'd have to pay twice as much. The same is true of harvesting.

But those oysters would just look fine the first couple of years. It rather fooled us because we continued to plant.

But to get into the meat of this thing, I want to start reading a letter or two. But before I do that, I want to say this about Mr. Goble -- Mr. Eiler, I think it was -- or Mr. Gruble, about his talking about that liquor put out on the paving up there in the macadam roads up in Anacortes. It so happens that Mr. Gruble was quoting the Anacortes American -- a paper very friendly to the pulp mills. They should be. And in the paper, it said, as a quotation from the City Clerk, "Don't drive on these highways," he said, "they are very corrosive." That's what he was talking about. That's the truth. It won't hurt the fish, but it will eat the fenders off the cars. (Laughter)

Now, another thing. Mr. Hunter -- you tell about the good fishing and I want to say this: I only know of one case where this pollution -- these pollution blocks -- there may be others, where they have killed off the big spawning salmon coming back to go up the river. That, the Pollution Commission knows all about that. That was in the Chehalis River. As a matter of record, in the Pollution Commission's early hearings, where they went down and held a hearing and took testimony. The testimony was this: The fishermen no longer went out to catch fish. They laid down there below the pulp mill in a boat and gaffed the fish in as they turn belly up and came floating back down the river. Now, that's a matter of public record. But I think that is an exception. I think for the most part, this big fish is smart enough -- maybe hold his breath longer or something, that he gets through. But the biologists of the Washington State Department of Fisheries have been working at this thing for twenty-five and thirty years. They estimate that in the Snohomish River, that fifty percent of the fingerling salmon coming down that stream -- one of the best spawning streams in the State, that fifty percent of them die and sink without a trace in that pollution block. A hard thing to prove. They had live boxes out so you couldn't see what had happened.

Now, the other thing, Mr. Hunter, I want you to go back and thank Milo Moore because Milo Moore, as Director of Fisheries this last four years, shut down the commercial fishing for the most part. Very major closures and still it let these fish get down that the fishermen are catching in other years; and so as a result, your sports fishing was open and you did have good fishing. So after the meeting, thank Milo.

Now, another thing, Milo has -- he has the -- we were going to show these on these slides. Mr. Gruble had to fly out to Miami to a canners' convention today and couldn't be here. He went up and took slides of fish -- he put out fish a mile from the Bellingham mill. He timed how long it took them to kill fingerling salmon. Killed these particular ones in three minutes. They turned belly up. He has slides on this. I would like to, if possible, to submit pictures of these slides and have Mr. Gruble make an affidavit of just exactly how he took them.

The first letter is this:

Gentlemen: Quoting the attached brief, the Gunter-McKee Report found:

Number 1. That sulphite liquor is the only change in the North Sound environment.

Number 2. That sulphite liquor does reach the oyster beds.

Number 3. That sulphite liquor definitely is pollution.

Number 7. That the Olympia oyster production declined from a hundred and eighty-seven thousand three hundred and thirty-six gallons in 1914 to two thousand a hundred and nine gallons, or almost extinction in 1957, while the Shelton Pulp Mill was in operation. Two years after the pulp mill shut down, the Olympia oyster production increased a hundred and fifty percent or to five thousand three hundred gallons in 1959. It's since doubled that figure.

This statement completely ignored the main reason for the report, namely, that more than fifteen thousand acres of former producing oyster lands in Susan Bay just north of Everett, Padilla and Fidalgo Bays near Anacortes and Samish Bay near Bellingham have gone out of production except for fifty acres in the mouth of the Samish River, where pollution is diluted and held out of that area by the river.

Over five hundred thousand bushels of emaciated and unmarketable oysters were virtually abandoned due to the high cost of the long moves to unpolluted areas. Some of these oysters have been transplanted to the forty-acre beds at Similk Beach, just inside Deception Pass, where they fatten and can be marketed in four to eight months after being moved. The out-of-pocket loss to North Puget Sound oyster growers has exceeded five hundred thousand dollars while the loss to the economy of the State and its payrolls has been several times that amount.

Now, I won't read this brief, but I want to just say that it takes the things I've mentioned and some others and it quotes exactly the references that were made by Gunter-McKee, that for instance that clams -- clam larvae can only stand nine parts per million; that oyster larvae are affected down as low as two and a half and three parts per million of sulphite liquor.

(Letter read with attached brief herewith appended in "Appendix to Statement on Behalf of Pacific Coast Oyster Growers Association, by Mr. R. H. Bailey," as Appendix "A".)

And secondly, a letter from the Stanford Rsearch Institute of 1956 advised that our problem is one of enforcement and that further investigation would simply be a duplication of those in the past. The letter -- that particular paragraph says this -- the full letter is enclosed --

"Is your problem the lack of information or the lack of effective use of the information you have? Isn't it a problem of having adequate state laws, covering the disposal of domestic and industrial wastes into state waters, both fresh and salt, and their enforcement? With our present knowledge, both domestic and industrial wastes can be purified without undue expense to the community or industry, and at the same time, protect the natural resources, whether found in water or air or ground.

"It seems to me that you should explore along these lines before considering another investigation which can only be a duplication or extension of what is now available to you."

The brief following that was to correct very misleading information furnished to the Legislature in 1959 by the Northwest Pulp and Paper Association which had first presented the paper to the Pollution Commission in 1958.

We believe that it was an unsuccessful effort to hoodwink both the Washington Pollution Control Commission and the members of Legislature. There has been little change in pollution abatement since Governor Wallgren's administration. The Weyerhaeuser process at Longview and the evaporator at Shelton were all completed or were under construction before he left office.

There has been little major project gain in pollution control in the past five years; evaporators at the new Cosmopolis mill and at Hoquiam. However, this present Pollution Commission has done a real job of getting out comprehensive engineering and biological studies in all areas of the State; Technical Bulletins 20, 21, 22 and 23, some others. The Commission has stood firm under great pressure in the present situation and we sincerely hope that the United States Department of Health, Education and Welfare will enter the case through the Department of Health.

This brief speaks for itself.

(Letter read with attached data herewith appended in "Appendix to Statement on Behalf of Pacific Coast Oyster Growers Association by Mr. R. H. Bailey", as Appendix "B".)

And next -- oh, I might say, this is the brief and answer to the old record that Vinton Bacon played today. This brief -- that was put out by Vinton Bacon, Northwest Pulp and Paper Association in February, 1928 -- February 4th. This is about ten or twelve pages answering the misstatements of that brief -- mis-insinuations. I think I could go stronger, but I wouldn't, because Vinton Bacon's a nice sort of a fellow.

Our basic pollution law was passed under Governor Wallgren's administration in 1945. Two years later, in 1947, the most complete analysis of pulp mill pollution was published in the Commission's Report Number 12. The attached comparison, with a similar analysis for the year 1958 was made by R. H. Bailey for use of the Oyster Association before the 1959 Legislature. Everything past page 3 deals with Port Angeles and Puget Sound.

Fingerling salmon leaving the Nooksack River on their way to the ocean, turn either to the right or left and follow along the shore. That's the peculiarity of the little fellow. I think he stays in there to keep away from the big fish. Those that turn left, enter the pollution block of Inner Bellingham Bay and suffocate and sink without a trace. This lack of oxygen is satisfied within a mile or two from the pulp mill and has no effect on oyster beds six to sixteen miles away. Therefore, the alcohol plant which ferments and eliminates fifty percent of the sugars with their high oxygen demand, gives no relief to the oyster grower.

At the time of this report, North Puget Sound oyster growers would have compromised by piping out of the Bellingham digester liquor. We proposed it. We now believe that that mill should evaporate eighty-five percent and still pipe out the first half of its wash waters. We would still be satisfied with the piping out at Anacortes, impounding at Burrows Island and discharge only on fast moving ebb tides in the deep water of Rosario Straits if built and operated to our specifications.

You know, I was up -- and this is off this record -- I was up and talked to the Rotary Club at Anacortes a short time ago -- last month, and I said, "You know, we are the best friends that you have. The most we ever asked was that you pipe out five percent of the water you pipe in -- the concentrated liquor, about five percent, that you pipe it out to the other side of the island and get it out into deep water where it winds up in an arm of the Pacific, which is the Straits of Juan de Fuca."

That's a small mill, you understand. It's a hundred and twenty tons per day.

(Letter read with attached data herewith appended in "Appendix to Statement on Behalf of Pacific Coast Oyster Growers Association, by Mr. R. H. Bailey," as Appendix "C".)

Our company -- this is by the Pioneer Oyster Company -- our company sued the Puget Sound Pulp & Timber Company, then owner of both Bellingham and Anacortes pulp mills in 1939. We got to trial in 1941. Pulp mill pick-up tests showed that we still had a million two hundred and fifty thousand bushels of oysters on our beds. We sold emaciated oysters for transplanting at ten cents per bushel, to finance our suit for twenty-five thousand dollars; and the pulp mill spent two hundred and seventy-five thousand dollars and bragged about it. They won.

A year later, the War Production Board shut down the

Anacortes pulp mill and the Bellingham mill ran short on production. Total production, as shown on the attached list, dropped from an average of four hundred and eighty-two tons per day in 1942 to three hundred and three tons per day in 1943. We made test-try opening in the early spring of 1943 without success, but by June, were able to market the oysters. We salvaged a half million dollars gross from Padilla Bay in the next three years after which the oysters had been cleaned up and the pulp production went up.

We held on to our land and paid the taxes but had no income. In 1950, based on our salvage operation -- salvage experience, we went to the Pollution Commission appointed by Governor Langley and offered to replant Padilla Bay if the Commission would order the pulp mill to pipe out its concentrated digester liquor to the west of Fidalgo or Burrows Island and discharge only into deep water on a fast running ebb tide. The attached estimate of cost indicates that the net profit of ninety days of the Anacortes Pulp Mill would have paid for the installation. The Pollution Control Commission agreed but the attached transcript of the correspondence shows that they did not back up their order or their Director, Mr. Eldridge.

We planted a hundred and sixty thousand dollars worth of seed oysters, imported from Japan in '52-3-4-5, and spent an additional forty thousand in other expenses. We lost every dollar of the money and Mr. Waters, my associate and I, paid the note a year ago, which we had signed as endorsers. According to the statements of its own officials, the Anacortes Pulp Mill made over thirty percent per year on its annual production of five million dollars worth of pulp.

I might add off the record here that the logs are a million and a half dollars a year and the payroll is under a million dollars. Less than half the five million -- those two items.

We believe that they should read what the Constitution says about the protection of private property.

(Letter read with attached data herewith appended in "Appendix to Statement on Behalf of Pacific Coast Oyster Growers Association, by Mr. R. H. Bailey," as Appendix "D".)

This last, pretty near -- this is an assembly of letters and statements in connection with the fight to force the modernization of our sulphite pulp mills to equal those of Alaska in this regard. The record shows that pulp mills have expanded their production and the amount of pollution by an average of over fifty percent in the past thirteen years since 1947. There has been no corresponding expansion of evaporation to even hold even.

When the new pulp mill -- sulphite pulp mill was built at Cosmospolis, they installed evaporators. Why then should not the Scott Paper pulp mill at Everett install evaporators when it increased production two hundred and fifty tons per day in 1947? And the increase equals the production of a large new pulp mill.

Public opinion at Everett has forced the City to spend hundreds of thousands of dollars to eliminate pollution of domestic sewage, which is less than one percent of the total pollution load in the harbor. Why should mills fail to spend any money toward eliminating ninety-nine percent of the pollution which they dump into Everett Harbor? Statement on that situation is attached.

(Letter read with attached data herewith appended in "Appendix to Statement on Behalf of Pacific Coast Oyster Growers Association, by Mr. R. H. Bailey," as Appendix "E".)

I want to go back to this just one thing -- it goes to the Everett situation. These are transcripts of the -- this was an agenda put out by the Pollution Control Commission way back in 1957; and it quotes exactly what was done at these various meetings -- and then I have here, one on Everett -- written before that, which I attached:

"On February 16th, 1948, on motion before the Pollution Control Commission, a motion was made and carried that if the Weyerhaeuser Timber Company's magnesium dioxide process at Longview proved successful the remaining pulp mills were to be 'cited before the Commission and requested to remedy their respective problems'. Various excuses were given by the pulp industry as to why they could not do so.

"On February 2nd, 1950, a resolution was passed which involved the Crown Zellerbach mill at Camas, the Weyerhaeuser Timber Company mill at Everett, the Soundview mill at Everett and the Rayonier, Incorporated at Hoquiam, which requested the use of either diffuser type outfalls or lagooning and indicated that these were considered temporary methods of abating pollution.

"On September 6th, 1950, the motion of February 2nd was amended where it concerned Soundview, now Scott Paper, and the Weyerhaeuser mills at Everett. The amendment stipulated that the mills convert to the magnesium process or to the ammonia process and burn, not later than December 31, 1953."

This goes to the proposition of delay: "It stated that the pipeline diffuser type outfall then being considered was only considered to be a temporary method of abatement.

"On August 24, 1950, Mr. Howard Morgan of the Weyerhaeuser Timber Company agreed that their mill at Everett would be converted to the magnesium process" -- twelve years ago.

I have here, something that only came to my attention today. It fits right into this picture as we see it. It's a technical paper by Mr. C. B. Kelly of the Shellfish Sanitation Laboratory, Milk and Food Research, U. S.

Department of Health, Education and Welfare and -- Public Health Service -- Robert A. Taft Sanitary Engineering Center, Cincinnati, Ohio.

And I haven't had time to document this, except to write and underline certain clauses, on pages 1, 5, 10, 16 and 20.

(Underscored and marked portions heretofore mentioned herewith copied into the record as follows:)

(Page 1) In contrast to the results obtained with chlorinated and dechlorinated sea water, ultraviolet treated sea water did not exhibit any adverse effect on the feeding activity of either the eastern oyster, Crassostrea virginica or the Olympia oyster, Ostrea lurida.

(Page 5) Studies at Pensacola demonstrated that the feeding activity of oysters was adversely affected by chlorination and dechlorination of sea water.

(Page 10) RESULTS

Influence of Chlorination of Sea Water on Feeding Activity of Oysters - Experiments at Pensacola demonstrated that chlorinated and dechlorinated sea water had an adverse effect on feeding activity of the eastern oyster, Crassostrea virginica. Similar studies conducted at Purdy with the Olympia oyster, Ostrea lurida demonstrated the same effect. Comparative activity of Olympia oysters furnished untreated and chlorinated, dechlorinated sea water is presented in table 1. Chlorine dose was sufficient to produce a residual of 0.2 to 0.5 ppm after five minutes contact and the water was dechlorinated with an excess of sodium thiosulfate. Activity was determined by the presence of fecal deposits. The adverse effect of chlorination can be seen by the distinct differences between percent activity observed in the "treated" and "untreated" flats.

(Page 16) DISCUSSION

The use of chlorine for the sterilization of sea water in shellfish purification plants is contraindicated,* since it has been established that chlorine has an adverse effect on the feeding activity of both the Eastern oyster and the Olympia oyster. Further, the experiments have demonstrated that dechlorination does not remove the factor which influences the feeding activity.

*REPORTER'S NOTE: Portion of sentence before asterisk not underscored; included herein for context only.

(Page 20)

INFLUENCE OF CHLORINATED AND DECHLORINATED SEA WATER ON FEEDING ACTIVITY OF OLYMPIA OYSTERS

Treatment of water for test tank	Test period hours	Water temp °C	Percent activity	
			Treated	Untreated
Chlorination and dechlorination; water flowing through	12	9	21	57
	11	8	20?	50
	31	8.5	30	57
	23	8	40	71

MR. BAILEY: And what this does, they go ahead and chlorinate the water. Then they dechlorinate that water; then they feed it to clams or oysters and do you know what it does? It interferes with the feeding. They only feed fifty percent of the time as compared to what they did before this perfectly harmless water was chlorinated and dechlorinated. Now, the pulp mill theory is that their caustics are you might say dechlorinated and are "spent" is their favorite word in things. But still, here's a place where they chlorinate and then dechlorinate and it still interferes with the feeding of the animal. Our claim is that in the oyster business, it's the interfering with the feeding of the animal.

Now, Mr. Bacon had these charts up here in which he showed the plankton growth. We got just as much today as they had when the pulp mill was running -- maybe a little more. We went all through that some twenty-three years ago. We operated a laboratory for about a year. We took centrifuges and took a lot of plankton out and we found that in the Padilla Bay area, where it was badly affected, that we still had just as much food as they had in other bays in the State.

There's one thing about this thing, you know. We had a biologist that we had here from Japan one summer. He identified fifty-four varieties of plankton and diatoms in our Bay. So when you go out there and you take a gross sample, we're not sure. Maybe something has killed off the particular ones that oyster eats and maybe it's magnified the production of the ones that he doesn't eat. At any rate, the effect on an oyster is not to kill him. That's not it at all. The effect is that it interferes with his feeding and we have a hundred or a hundred and twenty-five thousand bushels of oysters in Padilla Bay today, and it looks as if it's a complete loss, because there is no place within any reasonable distance to move those oysters and salvage them.

We would like to have at least these particular pages go into the record -- the ones that are underlined with regard to this, or maybe the whole thing, if you chose.

CHAIRMAN STEIN: We'll be glad to put that in the record when you have completed, Mr. Bailey, if you would give that to the stenographer.

MR. BAILEY: Yes, I'll do that.

(Document referred to, entitled "Disinfection of Sea Water by Ultraviolet Radiation," by C. B. Kelly, received by the Conferees and included in Appendices of ORIGINAL RECORD ONLY under Section "For Official File of Conferees" and may be referred to in such official file as Appendix "F".)

MR. BAILEY: Now, there's one other thing here -- I want to come to the defense of Mr. Quigley. You know, I've had many aerial pictures of pulp mills and Mr. Quigley's not the first one that has seen evidence of pollution. You take an aerial view of a pulp mill and it looks as if somebody took the picture and like any ordinary picture and then spilled a bottle of ink on it. We have traced the color -- the color by the naked eye, you can trace it six miles from Bellingham. And so at the time the Technical Bulletin 22 of the Pollution Commission was brought out -- and that should be a part of this record, because it shows, contrary to this two percent sulphite liquor in North Sound over the oyster beds in Samish Bay, that it varies from eight and ten, with a south wind, up to forty parts per million, with a north wind. Any time you switch from a south to north wind, pollution goes up five-fold.

So I took this particular document and I went right through and I took averages at all the various stations; and this is attached to this one document. It shows that within a third of a -- three-tenths of a mile of Bellingham, Stations

5 and 6, the present pollution is two thousand and sixty-two parts per million. After compliance, that is, evaporating eighty-five percent -- in other words, this is fifteen percent of that figure, you'd still have three hundred and nine parts per million. Three to five miles, Stations 4 to 7, you now have four hundred and forty-six parts per million, you would after evaporation, have sixty-seven parts per million. At a half a mile to a mile, Stations 2, 3 and 8, you now have a hundred and eighty-six parts per million, you would then have twenty-eight parts per million. One to two miles, Stations 1, 9, 10, 11, 14, 15, 16, you now have eighty-seven parts per million. It would re reduced, with evaporation, to thirteen parts per million. Two to two and a half miles, Stations 12 and 13, forty-two parts per million at present -- it would be reduced down to six and a third parts. Outer Bellingham Bay, six to nine miles -- a lot of stations -- you now have eighteen parts per million, it would come down to two point seven. Samish Bay, thirteen miles distance -- you now have -- this is an average of the north and south winds that are recorded -- thirteen and three-tenths parts per million. With evaporation, it would reduce down to two parts per million. Padilla and Fidalgo Bay, four point six parts per million at present, and I might mention that it had no recordings in that Technical Bulletin with a north wind. We maintain that our readings would go up five-fold. It would be reduced down -- that figure

down to point seven parts per million. Guemes Channel is the same story -- twenty-two parts per million at Station 20 and it come down to three point four; twenty-one two and three from six point seven down to one and Station 19 from four point six down to seven-tenths. So that I think that anyone -- you don't have to close your eyes to the pollution because it's everywhere.

While we're quoting figures -- I'll come to this in a second too, but I want to -- about the thirty million dollars spent by the pulp mills, I want to give you a schedule published in the Congressional Record on May 29th, 1957, on the Congressional Record of May 29th, 1957, on page 7,141, which shows that these pulp mills had thirty-eight million five hundred and eighty-seven thousand dollars in fast tax write-offs for the seven years of 1950 to 1957.

The Weyerhaeuser Company at Everett had thirteen million two hundred and eighty-seven thousand. The Weyerhaeuser Company at Longview had eight million nine hundred and fifty-five thousand.

The Pacific Coast Paper Mills at Bellingham had -- the Scott Paper at Everett first, had ten million eight hundred and ninety-six thousand dollars.

Pacific Coast Paper Mills had two hundred and sixty-four thousand.

Rayonier, Port Angeles, had five hundred and sixty-eight thousand. At Shelton had nine hundred and eighteen thousand. At Hoquiam had five hundred and fifteen thousand.

Crown Zellerbach at Camas had six hundred and forty-three thousand.

The West Coast Newsprint at Steilacoom had two million a hundred and forty-eight thousand dollars in fast tax write-offs.

I think we ought to get all these figures in.

Then last, but not least, I come to Vinton Bacon's thirty million dollar figure published in the morning paper -- spent on eliminating pollution in Western Washington. It so happens that in Progress Report Number 43, of the Washington State Pollution Control Commission, published just recently, December 31, 1957. It adds up -- I would say, we get up to -- I can account for about oh, all the last -- except the last five million dollars of this thirty million.

I want to tell you a little thing about it. Coos Bay Pulp Corporation, Anacortes, thirty thousand five hundred dollars. The money was spent on a few sanitary devices -- a few things -- sanitary wastes -- things we're not concerned with at all. We are concerned with sulphite pulp liquor, so I am going to give you honestly what's been done to eliminate sulphite pulp liquor? Not a dime of that thirty thousand five hundred.

Crown Zellerbach at Camas -- I would say the same thing is true, except that they did put in impounding basins to hold it up to kind of kill the effect of that slime they get down there.

And I want to say this, of the blood brotherhood of these pulp mills -- and when you sue one of them, you're suing all of them -- Crown Zellerbach are the only ones who are not at this date challenging the authority of the State of Washington to regulate them as they regulate every other business in the State of Washington.

Crown Zellerbach spent three million nine hundred and twenty-six thousand nine hundred dollars. That's an impounding basin. Didn't do away with any liquor.

Crown Zellerbach at Port Angeles spent a hundred and forty-five thousand. I think the same is true.

Fibreboard at Port Angeles, the same thing -- eighty-four thousand.

Inland Empire, they spent sixty-two thousand. They describe what it's spent for, but they call it all pollution control.

Puget Sound Pulp and Timber Company, Bellingham -- they spent five hundred and fifty thousand dollars. They spent it on sanitary wastes and septic tanks and research activities. If they had spent some of this research in monitoring they spend, we'd have the problem solved.

Rayonier at Port Angeles, installation of a program of water course sampling -- reuse of the white water and so forth

-- spent a hundred and seventy-five thousand dollars. Eliminates no sulphite liquor.

Rayonier at Shelton -- spent ninety-five thousand dollars. Of course they are out of operation so it's not important anyhow.

And the next one is the Weyerhaeuser Pulp Division at Everett -- they spent theirs on reuse of water and this and that. They don't take a gallon of sulphite liquor out of the water.

Weyerhaeuser Company at Longview -- now, I'll say this about them -- they had four million and fifty-nine thousand dollars. It describes what they spent it for. It wasn't on a sulphite plant, I guess -- oh, yes, the sulphite system was enlarged and improved for more recovery of chemicals. But they list a lot of things. If you pin the thing right down, why, probably maybe a half of it, or something like that.

Weyerhaeuser Company at Cosmopolis -- now, here the Weyerhaeuser Companies should be given all the credit in the world. They put in a modern mill and they spent seven and a quarter million dollars on the pulp -- on evaporating the liquor. I've heard the figure was less than that -- about half of that. But even so, what was the net result of this thing? It increased sulphite liquor -- the block in Grays Harbor by a hundred and ninety-six thousand gallons a day. It didn't eliminate any liquor. That much gets away of the wash water, by their own admission. In fact, that's in Technical Bulletin 23, I think it is, in Grays Harbor -- sets forth that they can't eliminate eighty or eighty-five percent -- ninety percent, they eliminate eighty percent.

Crown Zellerbach at Port Townsend, five hundred and sixty-one thousand dollars. It tells pretty well what it is.

St. Regis at Tacoma -- no, no, here's one first: Longview Fiber at Longview -- four million dollars. I think that that is a kraft mill anyhow, not sulphite; and St. Regis at Tacoma -- and that's the same story. That's a kraft mill. And so is Simpson Paper Company; and Columbia Paper Mills at Vancouver.

I want to get back here to Scott Paper -- Scott Paper. A million two hundred and thirteen thousand one hundred dollars. Now, the odd thing about that is, that's the one thing I have memory of; because they appeared down here -- Mr. Forman was down here to a pollution meeting and I think Mr. Coe and the members of the Commission remember this. And this was about four or five years ago. I'll tell you what over a million dollars of this was. It was putting in a log barker. What's a log barker got to do? It's nice to take out the bark and take the bark off the log. What's it got to do with our problem? We're talking about the toxic effect of sulphite liquor, at quite some distance from the mill.

I think that accounts, as I remember it, for about twenty-five or six of the thirty million dollars.

I want to thank you gentlemen, for this opportunity. We certainly are glad that you have come into the picture. We think you will be fair to everybody concerned. As I said before, I told them up at Anacortes, "we're the best friends you ever had". We want to be that. We don't want to shut down no pulp mill. But I'll say this, when every pulp mill in Alaska evaporates -- when way back in New Hampshire -- at Berlin, New Hampshire, they built a pulp mill and they put in the Weyerhaeuser process. The mills up north all have the Weyerhaeuser process. I am told that the Rayonier plant -- the new plant at -- that wasn't in here, but they spent about eight million dollars and that is one thing that we admit -- the Rayonier plant at Hoquiam, some eight million or eighty-five -- eight and a half, that they really have done a job. And they say that it actually is superior to the Weyerhaeuser project. Of course, maybe that's like one oyster man talking to another, he always says that his oysters are the best.

Thanks a million.

CHAIRMAN STEIN: Are there any comments or questions? How much of that do you want to put in the record, Mr. Bailey?

MR. BAILEY: All of it. (Laughter)

(Document referred to, entitled "43rd Progress Report, Washington Pollution Control Commission" herewith appended in "Appendix to Statement

on Behalf of Pacific Coast Oyster
Growers Association, by Mr. R. H.
Bailey," as Appendix "F".)

(Following data, received from Mr. R. H. Bailey by the Public Health Service, Portland, Oregon, on January 22, 1962, herewith entered into the record under "Appendix to Statement on Behalf of Pacific Coast Oyster Growers Association, by Mr. R. H. Bailey," as follows: Official Petition-Initiative 203, as Appendix "G"; Bill, dated January 15, 1943, as Appendix "H".)

(Following data, received from Mr. R. H. Bailey by the Public Health Service, Portland, Oregon, on January 25, 1962, herewith entered into the record under aforementioned Appendix as follows: Pamphlet entitled "The Pulp Mills Research Program at the University of Washington", as Appendix "I"; affidavit of Ralph Birkinshaw as Appendix "J"; News Release of August 25, 1961 as Appendix "K"; News Release of October 9, 1961 as Appendix "L"; News Release of December 21, 1961 as Appendix "M'; Editorial in Seattle Post-Intelligencer of January 21, 1962, as Appendix "N"; Statement by John Metcalf, entitled Pollution is Causing Huge Salmon Losses" and "Puget's Poisoned Fish", as Appendix "O".)

MR. BERGERSON: We're now down to the last speaker for the day, Mr. Gerald Burk, representing Local 113 of the City Employees of the City of Everett.

Mr. Burk.

STATEMENT ON BEHALF OF
LOCAL 113 OF THE CITY EMPLOYEES
OF THE CITY OF EVERETT

(By Mr. Gerald Burk)

MR. BURK: Mr. Chairman, members of the joint Federal and State Pollution conference, ladies and gentlemen, my name is Gerald Burk, President of Local 113, Municipal Employees.

I have spent my life on the Puget Sound, in the waters around Port Gardner Bay. As a representative of the workers, we are as interested in clean, pure water in the recreational areas of Washington as anybody.

In the Puget Sound area, as a boy, I spent a great deal of time in fishing and swimming on Puget Sound, in and around Port Gardner. I in no way want to take these sacred advantages away from my children or my grandchildren. However, neither do I want to impair their livelihood by putting so much emphasis on the recreational value that some seem to think we are in danger of losing.

I have seen the salmon in the River of Snohomish when they came up in great schools. They have vanished long before the major pulp industries of Everett were operating there. I have also seen the ducks and geese fly over that same area in great flocks. They are gone also. Not from industry, but from civilization itself.

However, there is another factor that we must take in consideration, in considering the question before us today. The economics of the City of Everett are bound up in wood products and forest industry. The whole economy of Everett is hinged to that industry. I would in no way want to endanger the livelihood nor the job possibilities by careful or unreasonable rules which ignore the importance, either of industry or good water. I think in making these statements, I am expressing the views of the majority of the labor people in and around the area which is Port Gardner Bay.

We hope and trust that the responsible officers, both Federal and State, will recognize there is a difficult problem with no easy solution. We think that we are entitled to receive from them, their best efforts to work out a solution which will not only safeguard our great recreational area, but also our potential to make a decent living.

CHAIRMAN STEIN: Thank you. Are there any comments or questions? (No response)

MR. BERGERSON: That concludes the --- (interrupted)

MR. BAILEY: One thing -- when I said to put all of that in, I don't mean to put in that Pollution Commission

Report Number 43 except the part at the top.

CHAIRMAN STEIN: Right. We'll do that.

(Previous document referred to as "Appendix F" to include only pages 39 to 51 of aforementioned Progress Report.)

CHAIRMAN STEIN: I think since this has gone so long, before we get on the last lap, which is the summary, we had better take a five to ten-minute recess. We stand adjourned for ten minutes.

(Short recess)

AFTER RECESS

(The conference reconvened at 4:26 o'clock p.m., 17 January, 1962.)

CHAIRMAN STEIN: The conference is reconvened, and I am going to attempt to summarize the conclusions of the conference for the conferees. If the conferees have any suggestions or modifications, of course, I would hope they would make that orally and we would make adjustments in the conference in the summary as we go along.

Now, this summary will be formalized in the official summary of the conference, which by statute we will make available to the Washington Commission for distribution to interested parties.

First, I think the conferees are agreed that the waters of Puget Sound, Juan de Fuca, and the navigable tributaries -- are waters subject to the jurisdiction of the Federal Act.

Secondly, that there is pollution of these waters, which is subject to abatement under the Federal Water Pollution Control Act. These discharges come from various sources in the Puget Sound area, notably the pulp and paper industries which contribute to this pollution.

The conferees take cognizance of the excellent progress being made by many industries in the State of Washington and the State of Washington Pollution Control Program in developing adequate pollution control measures for the State on a progressive basis.

The conferees also have determined that measures taken to date by the sources of pollution mentioned at this conference have not been adequate, are not sufficient to control pollution of the waters of the Puget Sound area; that delays in correcting this pollution have been due to the fact that some of the sources of pollution have not taken action to install remedial measures.

The conferees have taken cognizance of the temporary permits and the permit system of the State of Washington and they have come to the conclusion that this is a reasonable method of handling pollution control. The conferees have taken cognizance of the fact that in some cases, temporary permits are out and in some cases there are expired permits.

In looking over the temporary permits, particularly of the seven pulp and paper mills, which were named here, the conferees determined that the date of January 1st of the alternate plan having passed, doesn't seem to be realistic any more and in the same sense, we would have to consider the second date of engineering plans of March 1st, 1962, would not seem to be appropriate at this time. Therefore, it is suggested that -- the conferees would suggest that the sources of pollution which are not in compliance with State requirements now, take action to abate pollution of the waters of Puget Sound and its tributaries and estuaries, this pollution causing deleterious conditions so as to interfere with fisheries resources, commercial and sports fishing and recreation by doing the following:

To have an alternate plan, if such an alternate plan is to be submitted in before the Washington Commission by July 1st, 1962; and to have engineering plans in any event approved and completed by March -- or by January 1st, 1963.

In addition, the conferees recommend that as to other sources of pollution, the Commission proceed forthwith to develop a commensurate plan for cleaning up the remaining sources -- or the Washington Commission proceed forthwith with developing a plan for cleaning up the remaining sources of pollution, municipal and industrial, in the Puget Sound area so there will be no interference with public health or with other water uses. This session, of course, will be considered the session of this conference dealing with the Puget Sound area. A session for the Upper Columbia River will be announced in the very near future at the call of the Chairman.

That the representatives of both the states and the Public Health Service will make themselves available to develop a joint program -- and I think we might announce here that in our department, we have two ways of approaching problems of this kind. In some situations, the problem is handled through the regular staff of the Regional Office, with a group coming from one of our scientific centers, such as the Sanitary Engineering Center at Cincinnati for a special study. This, as you recall, was done on the Lower Columbia River. In other cases, such as in various places throughout the country, such as Raritan Bay, the Great Lakes, the Arkansas Red, and on the Colorado River basins, where we have had fairly large problems, we have augmented our staff in the region. We intend to augment the staff in this area through our Portland office. This staff will be available and will proceed forthwith to make necessary evaluations and studies. The data that this staff of experts will assemble will be available to the State and any other parties and of course, our experts on the staff, assigned to this project, will be available to the State for any work that it might want to do with us on a cooperative basis in connection with the State's proceedings. This is in line with the statutory directive to encourage state action to abate pollution.

The Department of Health, Education and Welfare will prepare progress reports concerning development of the action program to abate pollution at intervals not to exceed three months, but as often as required to record significant developments and reports of meetings which have been held. This information will be made available to any interested people through your State Agency.

Are there any other comments, amendments or modifications?

MR. DWORSKY: I have two comments, Earl and Wally -- the State schedule calls for a date for the completion of construction and in view of the adjustments in the first two items, alternate plans and engineering plans, I merely ask whether or not some statement might be appropriate, if not a date with respect to when construction is to be completed. It may be that you want to leave that open but I think that there ought to be at least constant surveillance and action in good faith in terms of the engineering plan development as we move to the completion of construction date.

MR. BERGERSON: I would say there should be some statement included -- either a definite date or something in the way of -- if we have action in good faith, I don't think we will have any problem. I think there was approximately eighteen months allowed for construction, which seems to be a fairly reasonable period of time. However, it is a relatively close construction schedule.

MR. COE: May I make a comment on that?

CHAIRMAN STEIN: Yes.

MR. COE: I would prefer that this matter be left open as to this final date.

CHAIRMAN STEIN: I think we can expect that the State would allow a reasonable construction time after the completion of the plans and specifications. I think we have an indication here and in other areas of the country what a reasonable construction time is. The construction time that appeared in the temporary permits certainly appear to be a reasonable construction time. Of course, I think this would call for some evaluation by both us, in conjunction with the State, if there was any notion that this construction time allowed was not reasonable.

MR. DWORSKY: I would like to leave that open also, Earl, with you on this basis, that the State keep continuing supervision over the progress being made and that the State in its actions then establish at appropriate times, dates for its own progress, so that you can have some goals to shoot at.

MR. COE: I think that can be supplied in these periodical reports as we go along.

MR. DWORSKY: That will be good. And then there was this one other point with respect to the other sources of pollution, other than the seven mills named, and that the State also in their permits, have dates established for the same three points -- alternate plan development, engineering plans and constructions to completed -- is there to be a time added perhaps to these dates as required, or are these dates under the present temporary permits to be maintained?

MR. BERGERSON: I'm not sure just exactly what temporary permits you are referring to?

MR. DWORSKY: Well, I was referring to the balance of other sources of pollution, municipal, other industrial -- perhaps the Federal installations and other sources of pollution that you have under surveillance and have made requests for --- (interrupted)

MR. BERGERSON: We've been working on these other problems for some time. I think it will be a matter of developing a time schedule at some later date or very shortly, rather than setting it here today.

MR. DWORSKY: Yes. This is what you would intend them to do?

MR. BERGERSON: That's what we plan on doing.

CHAIRMAN STEIN: Mr. Dworsky, that was one of the conclusions of the conferees, that the State proceed forthwith to develop an action program to do that. I think the three-month reports will cover all these sources of pollution as listed in the appendage to the State report and it will be pretty clear whether these sources are being covered. Are there any further questions or comments? (No response)

Does anyone in the audience want to make a comment or do you have a question?

MR. HUNTER: In any event --- (interrupted)

CHAIRMAN STEIN: Would you identify yourself for the record?

MR. HUNTER: Yes -- Hunter, Simpson Lee Paper Company attorney. In the event members of your staff make studies, surveys -- technical studies and reports and so forth -- am I correct in assuming that they will be made available to the State of Washington, and by the same token will likewise be made available to my client, for instance, the Simpson Lee Paper upon request and on the same basis?

CHAIRMAN STEIN: Yes, that is correct. They're available on the same basis as the State of Washington. Now, as you would appreciate and while you're all here, let me bring this out so there will be no misunderstanding and I think some of your technical people can appreciate this; that when we have these data available, a good deal of the data very often is in the form of work sheets down at the laboratory or offices where the men are working on them. Some of this comes out in reports. Now, the data on our work sheets is public and that data is available for inspection at designated places. This is in accordance with the standard procedure. In other words, we will carefully budget, so as not to frivolously handle Federal funds, the preparation of collated reports to get out information on a periodic basis. We will not go into necessarily a crash report and a runoff for every request. We just can't do that; but the work sheets will be available for anyone who wants to see it during reasonable office hours.

Are there any further questions or comments?

(No response)

If not, thank you all for coming and we stand ajourned.

(Whereupon, at 4:40 o'clock p.m., January 17, 1962, the conference adjourned.)

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